PROCEEDINGS

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. XVIII, No. 17, pp. 531-541, AND No. 18, pp. 542-586 APRIL 8, 1930

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## XVII

# Report of the President of the Academy for the Year 1929

BY

C. E. GRUNSKY

*President of the Academy*

## XVIII

# Report of the Director of the Museum and of the Aquarium for the Year 1929

BY

BARTON WARREN EVERMANN

*Director of the Museum and of the Aquarium*

SAN FRANCISCO

PUBLISHED BY THE ACADEMY

1930

# TRUSTEES, OFFICERS, COUNCIL, AND MUSEUM STAFF OF THE CALIFORNIA ACADEMY OF SCIENCES

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M. HALL McALLISTER,
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*Director of the Museum and of the Steinhart Aquarium, and Executive Curator*

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DR. F. E. BLAISDELL, SR., *Research Associate*
WALTER M. GIFFARD, *Research Associate*[1]
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Department of Fishes . . . DR. BARTON WARREN EVERMANN, *Curator*
H. WALTON CLARK, *Assistant Curator*
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Department of Paleontology . DR. G. DALLAS HANNA, *Curator*
DR. LEO GEORGE HERTLEIN, *Assistant Curator*
FRANK M. ANDERSON, *Honorary Curator*
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ALVIN SEALE, *Superintendent*
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## COMMITTEE ON PUBLICATION

COL. GEORGE C. EDWARDS, *Chairman*
DR. C. E. GRUNSKY — DR. BARTON WARREN EVERMANN, *Editor*

[1] Deceased June 30, 1929.

**PROCEEDINGS**

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. XVIII, No. 17, pp. 531-541 APRIL 8, 1930

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## XVII

# REPORT OF THE PRESIDENT OF THE ACADEMY FOR THE YEAR 1929

BY

C. E. GRUNSKY

*President of the Academy*

In last year's annual report attention was called to the needs of the Academy for the proper functioning of the different departments. An appeal was made to public-spirited citizens in California to consider carefully and sympathetically the matter of helping the Academy in one or more of its activities. It is regretted that this appeal has not received the attention that it should. It is, therefore, necessary again to call attention to the opportunity which the Academy would afford any one who is able, to render financial assistance in a manner which would prove of lasting benefit to the community and the state. The opportunity for helping to advance popular education and science is one which should appeal strongly to many of our public-spirited citizens.

The membership of the Academy is made up of persons interested in science. It should have a membership of 5,000 to 10,000 instead of the 1,100 at which membership has stood for

some years. Dues are not onerous—only $5.00 per annum, and no admission fee.

Special effort should be made during the ensuing year to increase the membership roll which has not changed materially during the year 1929. The membership is now made up of:

| | |
|---|---|
| Patrons | 17 |
| Honorary Members | 15 |
| Life Members | 85 |
| Fellows | 63 |
| Members | 911 |
| Junior Members | 5 |
| | 1096 |
| 5 of the Life Members are also Fellows | 5 |
| 2 of the Patrons are also Life Members | 2 |
| 1 Fellow is also an Honorary Member | 1 |
| 2 Fellows are also Patrons | 2 |
| Less | 10 |
| | 1086 |

| | |
|---|---|
| On January 1, 1929, the number of members stood at | 1096 |
| New members added during the year | 53 |
| Members lost by death | 23 |
| Members resigned | 27 |
| Members dropped for non-payment of dues | 13 |
| | 63 |
| Net loss during the year | 10 |
| Leaving the membership on January 1, 1930, at | 1086 |

The Academy carries on its list of benefactors the following names:

*Deceased*

Mr. James Lick

Mr. Ignatz Steinhart

The Academy carries on its list of patrons the following names:

*Living*

Mr. George C. Beckley
Dr. Frank E. Blaisdell
Mr. William B. Bourn
Hon. William H. Crocker
Mr. Peter F. Dunne
Dr. Barton Warren Evermann
Mr. Herbert Fleishhacker
Hon. Joseph D. Grant
Mr. Edward Hohfeld
Mrs. Albert Koebele
Mr. A. Kingsley Macomber
Mr. John W. Mailliard
Mr. Joseph Mailliard
Mr. M. Hall McAllister
Mr. William C. Van Antwerp
Mr. Edward P. Van Duzee
Dr. E. C. Van Dyke

*Deceased*

Mr. William Alvord
Mr. Charles Crocker
Mr. W. M. Giffard
Mr. John W. Hendrie
Mr. William F. Herrin
Mr. Henry M. Holbrook
Mrs. Charlotte Hosmer
Mr. Ogden Mills
Mr. Alexander F. Morrison
Mr. Amariah Pierce
Dr. John Van Denburgh

Academy members who were called by death in 1929 are as follows:

| | | |
|---|---|---|
| Mr. Harry Aldous | Member | March 15, 1929 |
| Mr. R. Curtis Baird | Member | November 22, 1929 |
| Mrs. Mary D. Barker | Member | January 20, 1929 |
| Miss Katherine D. Burke | Member | January 10, 1929 |
| Mr. W. M. Fitzhugh | Life Member | May 18, 1929 |
| Mr. Walter M. Giffard | Patron and Fellow | June 30, 1929 |
| Mr. Harry D. Hawks | Member | July 15, 1929 |
| Judge Frederick W. Henshaw | Member | June 8, 1929 |
| Mr. Edgar L. Hoage | Member | April 19, 1929 |
| Mrs. William E. Keith | Life Member | April 28, 1929 |
| Dr. John Sterling Kingsley | Fellow | August 29, 1929 |
| Mr. George R. Kleeberger | Life Member | December 11, 1929 |
| Dr. E. Ray Lankester | Honorary Member | August 15, 1929 |
| Mr. Frank A. Leach | Member | June 19, 1929 |
| Dr. F. A. Lucas | Honorary Member | February 10, 1929 |
| Mr. Ogden Mills | Patron | January 29, 1929 |
| Mrs. Louis F. Monteagle | Member | June 26, 1929 |
| Judge W. W. Morrow | Member | July 24, 1929 |
| Mr. George A. Newhall | Life Member | December 22, 1929 |
| Professor Robert Ridgway | Honorary Member | March 25, 1929 |
| Mr. William T. Sesnon | Member | June 30, 1929 |
| Mr. James A. White | Member | July 15, 1929 |
| Mr. William K. Winterhalter | Member | January 28, 1929 |

In the year 1929 eleven free lectures were delivered at the stated meetings of the Academy, as follows:

JANUARY 2. "Reasons why an Elk Refuge should be established in the San Joaquin Valley." By Dr. Barton Warren Evermann, California Academy of Sciences, San Francisco.

MARCH 6. "The Work of the Food, Drug, and Insecticide Administration." By Mr. Perry Bruce Clark, Assistant Chemist, United States Food, Drug and Insecticide Administration, San Francisco.

APRIL 3. "The Story of the California State Geological Survey under Whitney and Brewer." By Mr. Francis P. Farquhar, San Francisco.

MAY 1. "The Big Trees of the High Sierra." Illustrated. By Mr. Harold Stein, Field Executive, Boy Scouts of America, San Francisco.

JUNE 5. "The California Valley Quail." Illustrated. By Mr. Donald D. McLean, Field Naturalist, California Fish and Game Commission, San Francisco.

JULY 3. "Flora of the Apache Trail and adjacent country." By Miss Alice Eastwood, Curator, Department of Botany, California Academy of Sciences, San Francisco.

AUGUST 7. "The Pistache Tree, its history, culture, and economic importance." Illustrated. By Mr. G. P. Rixford, Physiologist, Bureau of Plant Industry, United States Department of Agriculture, San Francisco.

SEPTEMBER 4. "Reminiscences of old California." By Mr. Otto von Geldern, Second Vice-President, California Academy of Sciences, San Francisco.

OCTOBER 2. "Some Peculiarities of the California Flora." By Miss Alice Eastwood, Curator of Botany, California Academy of Sciences, San Francisco.

NOVEMBER 6. "In the By-paths of Chamisso in Alaska." By Dr. George Haley, Professor of Biology, St. Ignatius College, San Francisco.

DECEMBER 4. "Experiences with Hawks in California." Illustrated. By Mr. Donald D. McLean, Field Naturalist, California Fish and Game Commission, San Francisco.

The Sunday lectures at the Museum of the Academy in Golden Gate Park retain their popularity, and the kindness and good-will of those who contribute of their knowledge and experience on these occasions is sincerely appreciated. The following 33 Sunday lectures were delivered at the Museum of the Academy in Golden Gate Park during the year 1929:

JANUARY 6. "Western Reptiles and Amphibians." Illustrated. By Dr. C. L. Camp, University of California, Berkeley.

JANUARY 13. "A Zoological Student in Germany." By Dr. J. S. Kingsley, Berkeley.

JANUARY 20. "Fossil Hunting in New Mexico." Illustrated. By. Dr. C. L. Camp, University of California, Berkeley.

JANUARY 27. "Educating the Summer Vacationists." Illustrated. By Dr. Harold C. Bryant, State Fish and Game Commission.

FEBRUARY 3. "The Stars." Illustrated. By Dr. J. H. Moore, Astronomer, Lick Observatory, Mount Hamilton, California.

FEBRUARY 10. "The Nebulæ." Illustrated. By Dr. J. H. Moore, Astronomer, Lick Observatory, Mount Hamilton, California.

FEBRUARY 17. "Systems of the Stars." Illustrated. By Dr. R. G. Aitken, Astronomer and Associate Director, Lick Observatory, Mount Hamilton, California.

FEBRUARY 24. "Stars and Atoms." Illustrated. By Dr. S. F. Meyer, Professor of Astro-Physics, University of California, Berkeley, California.

MARCH 3. "Minor Planets and Comets." Illustrated. By Dr. N. T. Bobrovnikoff, Martin Kellogg Fellow, Lick Observatory, Mount Hamilton, California.

MARCH 10. "The Distance of the Sun." Illustrated. By Dr. R. H. Tucker, Palo Alto, California.

MARCH 17. "Variable Stars." Illustrated. By Dr. S. D. Townley, Professor of Mathematics, Stanford University, California.

MARCH 24. "Twins and Monsters, Their Etiology." Illustrated. By Dr. Charles E. von Geldern, Sacramento, California.

MARCH 31. "The Deer Problem in California." Illustrated. By Mr. J. S. Dixon, Economic Mammalogist, University of California, Berkeley.

APRIL 7. "The Elk Problem in California." Illustrated. By Mr. J. S. Dixon, Economic Mammalogist, University of California, Berkeley.

APRIL 14. "Personal Observations on a Recent Trip in Europe." By Mr. C. B. Lastreto, San Francisco.

APRIL 21. "Forestry in Switzerland, Sweden and California." Illustrated. By Prof. Walter Mulford, Professor of Forestry University of California, Berkeley.

APRIL 28. "California's Fishery Resources." Illustrated. By Dr. H. C. Bryant, California Fish and Game Commission, San Francisco.

MAY 5. "Literary Trails and Tracks." Illustrated. By Mr. Winfield Scott, Forest and Park Club of California, San Francisco.

MAY 12. "Choosing a State Bird for California." Illustrated. By Mr. C. A. Harwell, Chairman for Northern California, State Bird Commission.

MAY 19. "How the Yosemite Region was formed." Illustrated. By Mr. Harold Stein, Field Executive, Boy Scouts of America, San Francisco.

MAY 26. "History of the Yosemite Region." Illustrated. By Mr. Harold Stein, Field Executive, Boy Scouts of America, San Francisco.

JUNE 2. "Plant and Animal Life of the Yosemite." Illustrated. By Mr. Harold Stein, Field Executive, Boy Scouts of America, San Francisco.

OCTOBER 6. "Forestry and Reforestation in California." Illustrated. By Mr. Winfield Scott, California Forest Protective Association, San Francisco.

OCTOBER 13. "The Redwood in Sentiment, in Industry and in Reforestation." Illustrated. By Mr. Winfield Scott, California Forest Protective Association, San Francisco.

OCTOBER 20. "Forestry and Reforestation in the Sierran Region." Illustrated. By Mr. Winfield Scott, California Forest Protective Association, San Francisco.

OCTOBER 27. "As an Astronomer Sees the World." Illustrated. By Prof. Earle G. Linsley, Director, Chabot Observatory, Oakland, California, and Professor of Astronomy and Geology, Mills College, California.

NOVEMBER 3. "Impressions of Java." Illustrated. By Prof. Earle G. Linsley, Director, Chabot Observatory, Oakland, California, and Professor of Astronomy and Geology, Mills College, California.

NOVEMBER 10. "The Historical Development of Surgical Anæsthesia." Illustrated. By Dr. C. D. Leake, Professor of Pharmacology, University of California Medical School, San Francisco.

NOVEMBER 17. "Food Poisoning." Illustrated. By Dr. J. C. Geiger, Associate Professor of Epidemiology, University of California, Berkeley.

NOVEMBER 24. "The Quarantine Service and Control of the Mediterranean Fruit Fly." Illustrated. By Mr. C. A. Colmore, President, San Francisco High School Teachers' Association, San Francisco.

DECEMBER 1. "The proposed new building of the California Academy of Sciences with particular reference to the Simson African Mammal Hall." Models of the habitat groups shown. By Dr. Barton Warren Evermann, Director, California Academy of Sciences and Mr. Frank Tose, Chief of Exhibits, California Academy of Sciences.

DECEMBER 8. "Human History of the Lassen Region." Illustrated. By Mr. Harold Stein, Field Executive, Boy Scouts of America, San Francisco.

DECEMBER 15. "Experiences on a Journey to Nias, an Island Southwest of Sumatra." Illustrated. By Prof. Olaf P. Jenkins, Chief Geologist, State Division of Mines.

## LIST OF ACADEMY PUBLICATIONS IN 1929

That the Academy is actively prosecuting scientific research is evidenced by its publications. The following have been issued within the year:

### PROCEEDINGS, FOURTH SERIES

Vol. XVII, Nos. 11 and 12, pp. 297-360. No. 11—REPORT OF THE PRESIDENT OF THE ACADEMY FOR THE YEAR 1928, by C. E. Grunsky. No. 12—Report of the Director of the Museum for the year 1928, by Barton Warren Evermann. (Issued May 22, 1929.)

Vol. XVIII, No. 1, pp. 1-27, plates 1-3—A NEW SPECIES OF CORAMBE FROM THE PACIFIC COAST OF NORTH AMERICA, by Frank M. MacFarland and Charles H. O'Donoghue. (Issued January 29, 1929.)

Vol. XVIII, No. 2, pp. 29-43, 6 text figures—A NEW BIRD FAMILY (Geospizidæ) from the Galapagos Islands, by Harry S. Swarth. (Issued January 29, 1929.)

Vol. XVIII, No. 3, pp. 45-71, plates 4-7—A CONTRIBUTION TO OUR KNOWLEDGE OF THE NESTING HABITS OF THE GOLDEN EAGLE, by Joseph R. Slevin. (Issued January 29, 1929.)

Vol. XVIII, No. 4, pp. 73-213, plates 8-23—MARINE MIOCENE AND RELATED DEPOSITS OF NORTH COLOMBIA, by Frank M. Anderson. (Issued March 29, 1929.)

Vol. XVIII, Nos. 5, 6, 7, 8, pp. 215-227, plate 24. No. 5, p. 215, plate 24, figs. 10-11—A NEW PECTEN FROM THE SAN DIEGO PLIOCENE, by Leo George Hertlein. No. 6, pp. 217-218, plate 24, figs. 7, 8, 9—A NEW SPECIES OF LAND SNAIL FROM KERN COUNTY, CALIFORNIA, by G. Dallas Hanna. No. 7, pp. 219-220, plate 24, figs. 5, 6—A NEW SPECIES OF LAND SNAIL FROM COAHUILA, MEXICO, by G. Dallas Hanna and Leo George Hertlein. No. 8, pp. 221-227, plate 24, figs. 1-4—SOME NOTES ON OREOHELIX, by Junius Henderson. (Issued April 5, 1929.)

Vol. XVIII, No. 9, pp. 229-243, plates 25, 26—NOTES ON THE NORTHERN ELEPHANT SEAL, by M. E. McLellan Davidson. (Issued April 5, 1929.)

Vol. XVIII, No. 10, pp. 245-260—ON A SMALL COLLECTION OF BIRDS FROM TORRES STRAIT ISLANDS, AND FROM GUADALCANAR ISLAND, SOLOMON GROUP, by M. E. McLellan Davidson. (Issued April 5, 1929.)

Vol. XVIII, No. 11, pp. 261-265—THE GENERIC RELATIONSHIPS AND NOMENCLATURE OF THE CALIFORNIA SARDINE, by Carl L. Hubbs. (Issued April 5, 1929.)

Vol. XVIII, No. 12, pp. 267-383, plates 27-32, 7 text figures—THE FAUNAL AREAS OF SOUTHERN ARIZONA: A STUDY IN ANIMAL DISTRIBUTION, by Harry S. Swarth. (Issued April 26, 1929.)

Vol. XVIII, No. 13, pp. 385-391—THE ESCALLONIAS IN GOLDEN GATE PARK, SAN FRANCISCO, CALIFORNIA, WITH DESCRIPTIONS OF NEW SPECIES, by Alice Eastwood. (Issued September 6, 1929.)

Vol. XVIII, No. 14, pp. 393-484, plates 33, 34—STUDIES IN THE FLORA OF LOWER CALIFORNIA AND ADJACENT ISLANDS, by Alice Eastwood. (Issued September 6, 1929).

Vol. XVIII, No. 15, pp. 485-496, plate 35—DREPANIA, A GENUS OF NUDIBRANCHIATE MOLLUSKS NEW TO CALIFORNIA, by F. M. MacFarland. (Issued October 4, 1929.)

Vol. XVIII, No. 16, pp. 497-530, plates 36-41—SOME UPPER CRETACEOUS FORAMINIFERA FROM NEAR COALINGA, CALIFORNIA, by J. A. Cushman and C. C. Church. (Issued October 4, 1929.)

## ITEMS OF INTEREST

The Treasurer's report presents the facts relating to the Academy's financial standing. There has been, during the year, a further reduction of the Academy's indebtedness by $10,000, leaving a balance of $195,000 mortgage on the Commercial Building.

On December 7 a new mortgage was placed on the Commercial Building for $450,000 at 5½ per cent. The new mortgage was placed with the Pacific Mutual Life Insurance Company of California. The placing of the new mortgage of $450,000 was undertaken for the purpose of paying off the old mortgage of $195,000 to the Hibernia Savings and Loan Society, which leaves a balance of $255,000 for building purposes. The membership already is acquainted with the fact that the Academy is proposing to build an east wing to the present building, a portion of which will be "The Leslie Simson African Mammal Hall." This is being made possible by the generous offer of Mr. Leslie Simson which was explained in last year's report. The Architect is now working upon the plans for this new building.

The Academy possessed 319 shares of American Company stock. This was deposited with the American Trust Company for exchange for stock of the Goldman Sachs Trading Corporation August 7, 1929. In this transfer the Academy received 410 shares of stock of the Goldman Sachs Trading Corporation. October 1 a stock dividend of six shares was received, making a total of 416 shares, which were sold by Mr. William H. Crocker, acting for the California Academy of Sciences, October 11 at $105 per share, the net proceeds being $43,557.92. Had the stock been held a few weeks longer only about one-third as much could have been realized.

In June 1929 a reappraisal of the land on which the Commercial Building is located was made. In 1909, for the purposes of the lease, the land was valued at $544,000. A reappraisal in 1919 placed its value at $580,000. The reappraisal in 1924 advanced the value to $820,000. In 1929 the land was valued at $860,000.

In July an appraisal was made of the Commercial Building which resulted as follows:

| | |
|---|---|
| New replacement value | $666,504.33 |
| Depreciated value | 469,414.57 |
| Insurable value | 407,682.55 |

Under this appraisement the total amount of insurance that the Academy can carry on the basis of 80 per cent is $325,000. Formerly the Academy carried $525,000, but the Trustees voted to reduce the insurance to $325,000, the legal maximum.

It is with sorrow that I report the death of one of our Trustees, Mr. William M. Fitzhugh, who died May 18, 1929. The Academy has also lost by death three Honorary members, viz: Dr. F. A. Lucas of New York, who died February 10; Prof. Robert Ridgway of Olney, Illinois, who died March 25; and Dr. E. Ray Lankester of London, England, who died August 15. The Academy has suffered another great loss in the tragic death in an automobile accident, June 26, of Mrs. Louis F. Monteagle, wife of Mr. Louis F. Monteagle, a member of the Board of Trustees.

At a meeting of the Trustees August 26 Mr. Norman B. Livermore was unanimously elected a Trustee to serve for the remainder of the term caused by the death of Mr. William M. Fitzhugh which expires in February 1931. The Academy is very fortunate in securing Mr. Livermore as a member of the Board of Trustees.

Certain amendments to the Constitution were adopted May 25, 1929, which changed the manner relating to the method of electing members. Under these amendments members are now elected by the Council. Three new classes of members were established, viz: Benefactors, Sustaining and Junior Members.

In September the Director, Dr. Evermann, accompanied by the Assistant Curator of Fishes, Mr. H. Walton Clark, left for Indiana to superintend the packing and shipping to the Museum of the Jordan-Eigenmann Indiana University Collection of Fishes which had been purchased by the Academy. They were joined at Bloomington by the Superintendent of the Aquarium, Mr. Seale, who assisted them. The collection came through to San Francisco in perfect condition and is now temporarily stored in the basement of the Aquarium.

In December, Mr. M. Hall McAllister, our Treasurer, and also Chairman of the Committee on the Conservation of Wild Animal Life, donated $100 to that fund. Mr. McAllister has been very efficient in looking after this committee.

Mr. Edward Hohfeld of the law firm of Morrison, Hohfeld, Foerster, Shuman and Clark has continued to look after the legal affairs of the Academy and I feel sure that I voice a unanimous sentiment when I take this opportunity to express our appreciation of his deep interest in the Academy.

**PROCEEDINGS**

OF THE

CALIFORNIA ACADEMY OF SCIENCES

FOURTH SERIES

VOL. XVIII, No. 18, pp. 542-586 APRIL 8, 1930

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# XVIII

# REPORT OF THE DIRECTOR OF THE MUSEUM AND OF THE AQUARIUM FOR THE YEAR 1929

BY

BARTON WARREN EVERMANN

*Director of the Museum and of the Aquarium*

The Annual Report of the Director for the year 1928 was presented to the Academy at the Annual Meeting, February 20, 1929.

The present report submitted at this Annual Meeting, February 19, 1930, sets forth briefly the scientific and educational activities of the Academy for the calendar year 1929.

## PERSONNEL

The employees of the Museum as of January 1, 1930, were as follows: Dr. Barton Warren Evermann, Director and Executive Curator of the Museum and of the Aquarium, and Editor of the Academy publications; Susie M. Peers, Secretary to the Board of Trustees; Joseph W. Hobson, Recording Secretary of the Academy; Alice Eastwood, Curator, Kate E. Phelps and John Thomas Howell, assistants, Department of Botany; Edward P. Van Duzee, Curator, J. O. Martin and Amy Williamson, assistants, Dr. Edwin C. Van Dyke, Honorary Curator, Dr. Frank E. Blaisdell, Reasearch Associate, and Dr. Frank R. Cole, Associate Curator in Dipterology, Department of Entomology; Frank Tose, Chief, and Richard Cayzer, Russell Hendrick and Cecil Tose, assistants, Department of Exhibits; Dr. Barton Warren Evermann, Curator, and H.

Walton Clark, Assistant Curator, Department of Fishes; Joseph R. Slevin, Curator, Department of Herpetology; Dr. Walter Kendrick Fisher, Curator, Department of Invertebrate Zoology; Thomas Cowles, Assistant Librarian, and May Peffer assistant; Harry S. Swarth, Curator, Mary E. McLellan Davidson, Assistant Curator, and Joseph Mailliard, Curator Emeritus, Department of Ornithology and Mammalogy; Dr. G. Dallas Hanna, Curator, Dr. Leo George Hertlein, Assistant Curator, John L. Nicholson, Jr., assistant, Frank M. Anderson, Honorary Curator, and Dr. Roy E. Dickerson, Research Associate, Department of Paleontology; Constance W. Campbell, stenographer, part time; Evelyn Larsen, office assistant, part time; Raymond L. Smith, general assistant; Mabel E. Phillips, check-room attendant; William C. Lewis, janitor; Hugh Jones, assistant janitor; Robert L. Thompson, Jr., lecture attendant; Patrick O'Brien, day watch; Archie McCarte, night watch.

The Aquarium staff and employees as of January 1, 1930, were as follows: Dr. Barton Warren Evermann, Director; Susie M. Peers, Secretary, part time; Constance W. Campbell, stenographer, part time; Evelyn Larsen, office assistant, part time; Alvin Seale, Superintendent; Phyllis Beardslee, doorkeeper; Clynt S. Martin, chief engineer; B. T. Culleton, first assistant engineer; John A. Dwyer, second assistant engineer; Clyde E. Guidry, chief attendant; Jack Solini, first assistant attendant; L. R. Solini, second assistant attendant; J. N. Angelucci, third assistant attendant; Frank J. Maxwell, relief engineer and attendant; S. J. Shenefield, carpenter and general utility man; Charles W. Hibbard, assistant collector; Patrick O'Neill, janitor; Patrick McArdle, assistant janitor; James Cavanaugh, day watch.

Only a few changes have taken place in the personnel. Mrs. Johanna E. Wilkens, who had been employed as charwoman by the Academy for many years (in fact ever since 1895), met with a rather severe accident in which her shoulder was broken May 6, since which date she has been unable to return to her regular duties.

Aris Partidos, who served as usher at the Sunday lectures from March 13, 1927, to January 31, 1929, when he resigned. His place was taken February 3, 1929, by Robert Thompson, Jr.

Day-Officer Patrick O'Brien, after a protracted illness, was able to return to duty April 24.

Miss Clara Tose, preparator, Department of Exhibits, resigned October 6. Miss Dora Arnold, who had been doorkeeper and typist in the Aquarium since November 10, 1925, resigned August 31, to accept a better position, and Miss Phillis Beardslee was appointed to the position September 12.

The most important change in the personnel was the resignation, December 31, of Mr. Wallace Adams, Assistant Superintendent of the Steinhart Aquarium, a position which he had held since July 20, 1923. Mr. Adams leaves the Academy to accept the position of Chief of the Division of Fisheries, Bureau of Science, Manila, Philippine Islands.

During the years that Mr. Adams was with the Academy as Assistant Superintendent of the Steinhart Aquarium, he showed himself a faithful and efficient employee, and it is with great regret that we lose him.

## COOPERATION WITH PUBLIC AND PRIVATE SCHOOLS, WITH OTHER INSTITUTIONS, AND WITH INDIVIDUALS

The Museum continues to be of service to the schools, other institutions and individuals in their educational and scientific work.

In spite of the fact that all space available for public exhibits has long since been occupied, we have nevertheless continued to add to our educational exhibits, in the hope that facilities for putting them on exhibition may be provided in the near future.

Our research collections in several departments have increased greatly, as may be seen from the reports of the respective curators.

The Museum continues to loan portable habitat animal groups for circulation in the public schools, particularly in the Berkeley schools, where real interest in that form of education is strong.

ISITORS TO THE MUSEUM

| | *1916* | *1917* | *1918* | *1919* | *1920* | *1921* | *1922* | *1923* | *1924* | *1925* | *1926* | *1927* | *1928* | *1929* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | ..... | 23,170 | 25,260 | 17,241 | 27,013 | 25,755 | 19,038 | 15,270 | 32,364 | 34,989 | 26,528 | 33,791 | 35,859 | 26,757 |
| Feb. | ..... | 22,058 | 23,698 | 17,586 | 23,450 | 25,679 | 18,534 | 20,529 | 44,439 | 29,295 | 34,183 | 24,580 | 36,669 | 29,769 |
| March | ..... | 31,606 | 26,810 | 27,397 | 25,419 | 28,279 | 27,922 | 26,341 | 39,935 | 39,168 | 38,677 | 34,624 | 31,414 | 40,680 |
| April. | ..... | 32,175 | 23,274 | 25,994 | 32,208 | 24,939 | 36,057 | 21,911 | 41,332 | 40,257 | 36,746 | 38,452 | 42,965 | 31,419 |
| May.. | ..... | 26,154 | 26,391 | 28,369 | 37,107 | 25,517 | 27,237 | 37,597 | 48,152 | 38,137 | 52,913 | 47,414 | 43,129 | 41,318 |
| June.. | ..... | 32,123 | 29,843 | 32,248 | 36,207 | 29,406 | 27,131 | 39,511 | 58,281 | 51,775 | 53,799 | 51,630 | 51,100 | 65,998 |
| July.. | ..... | 37,193 | 31,420 | 48,028 | 52,492 | 43,186 | 36,263 | 64,530 | 91,329 | 69,921 | 83,707 | 84,282 | 84,406 | 68,658 |
| Aug... | ..... | 24,619 | 31,137 | 43,730 | 53,470 | 39,422 | 34,787 | 50,849 | 105,130 | 77,847 | 81,362 | 66,870 | 73,282 | 62,880 |
| Sept.. | 16,448 | 27,866 | 29,847 | 34,007 | 42,013 | 31,458 | 28,408 | 69,870 | 82,814 | 63,737 | 57,615 | 56,443 | 54,882 | 55,015 |
| Oct... | 36,933 | 20,629 | 14,743 | 30,463 | 33,500 | 24,861 | 19,459 | 66,894 | 43,074 | 40,418 | 44,654 | 43,520 | 36,094 | 39,120 |
| Nov... | 27,718 | 21,810 | 8,531 | 25,246 | 19,347 | 18,593 | 19,080 | 48,766 | 37,611 | 35,634 | 30,420 | 30,581 | 26,685 | 34,545 |
| Dec... | 15,002 | 21,693 | 19,588 | 21,188 | 21,340 | 15,062 | 13,339 | 36,707 | 21,572 | 32,245 | 34,555 | 30,827 | 24,217 | 29,837 |
| Totals for the years. | 96,101 | 321,096 | 290,542 | 351,497 | 403,566 | 332,157 | 307,255 | 498,775 | 646,033 | 553,423 | 575,159 | 543,014 | 540,702 | 525,996 |

Grand total since opening of the Museum September, 1916 ..... 5,985,316

VISITORS TO THE AQUARIUM

| | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
|---|---|---|---|---|---|---|---|
| Jan..... | ..... | 82,283 | 72,153 | 38,259 | 44,300 | 53,454 | 41,160 |
| Feb..... | ..... | 119,001 | 61,213 | 66,032 | 39,515 | 54,105 | 44,070 |
| March.. | ..... | 88,172 | 97,986 | 82,153 | 58,151 | 57,083 | 75,876 |
| April... | ..... | 83,245 | 79,021 | 64,830 | 65,337 | 78,735 | 50,583 |
| May... | ..... | 97,083 | 75,187 | 94,521 | 87,961 | 104,230 | 92,048 |
| June.... | ..... | 112,785 | 94,717 | 91,451 | 70,151 | 110,206 | 91,936 |
| July.... | ..... | 145,703 | 128,261 | 127,999 | 142,738 | 151,881 | 115,018 |
| Aug.... | ..... | 148,899 | 144,208 | 124,635 | 115,230 | 115,915 | 106,681 |
| Sept.... | 29,800 | 116,032 | 106,492 | 86,645 | 87,909 | 92,755 | 121,143 |
| Oct.... | 209,671 | 71,273 | 72,350 | 79,108 | 66,117 | 51,521 | 68,304 |
| Nov... | 145,434 | 67,500 | 59,074 | 49,741 | 44,643 | 50,554 | 72,149 |
| Dec.... | 96,757 | 48,376 | 52,929 | 48,423 | 43,582 | 36,406 | 53,658 |
| Totals for the years | 481,662 | 1,180,352 | 1,043,591 | 953,797 | 865,634 | 956,845 | 932,626 |

Grand total since opening of the Aquarium September, 1923..... 6,414,507

## SCHOOLS VISITING THE MUSEUM AND THE AQUARIUM IN 1929

A detailed report of the schools whose classes, accompanied by their teachers, and the number of pupils that visited the Museum and the Aquarium in 1929, is in the files and may be consulted by anyone interested. Following is a summary:

MUSEUM

| | In San Francisco | Outside | Total |
|---|---|---|---|
| Number of schools represented..... | 71 | 32 | 103 |
| Number of classes represented..... | 181 | 38 | 219 |
| Number of teachers accompanying the classes..... | 184 | 40 | 224 |
| Number of pupils..... | 5,416 | 1,202 | 6,618 |
| Total..... | 5,852 | 1,312 | 7,164 |

AQUARIUM

| | | | |
|---|---|---|---|
| Number of schools represented..... | 82 | 34 | 116 |
| Number of classes represented..... | 236 | 75 | 301 |
| Number of teachers accompanying the classes..... | 216 | 51 | 267 |
| Number of pupils..... | 6,113 | 1,318 | 7,431 |
| Total..... | 6,647 | 1,478 | 8,115 |
| Total for Museum and Aquarium..... | 12,499 | 2,790 | 15,279 |

# DEPARTMENT REPORTS

## DEPARTMENT OF BOTANY

The herbarium now numbers over 171,000 mounted sheets of specimens, an increase of about 10,000 during the year. Besides, there are many duplicates to be used as exchange material when time permits their distribution to other institutions.

Several collecting trips were made by the curator with no expense to the Academy. In March the curator was invited to Santa Barbara to address the members of the Museum of Natural History and the Garden Club. On the return a day was spent at San Luis Obispo and 40 specimens were collected, among them being specimens of a most interesting cypress. The month of May was spent in Arizona in the region of the Apache Trail as the guest of Mrs. S. D. McKelvey and Mr. and Mrs. Roland Still of the Apache Lodge. Railroad transportation was furnished by the Southern Pacific Railroad. The results of the trip will be published later. 829 specimens were added to the collection besides many duplicates. A short trip to the Calaveras Grove of Big Trees was made in early September with the Alpine Club which added 33 specimens. Mrs. E. C. Van Dyke made a collection of 60 specimens on Mt. Hood and Three Sisters in Oregon and was aided by a small contribution.

Duplicates have been sent to the following institutions: Dudley Herbarium, Stanford University, 35 from Lower California; Royal Herbarium, Kew, Surrey, England, 36 specimens of Lessingia; Arnold Arboretum of Harvard University, 473 exotics; University of Montreal, Canada, 200 from Alaska and the Yukon; University of Asiae, Mediae, Turkestan, 456 miscellaneous; Charles Piper Smith, San Jose High School, 20 lupines.

Specimens have been received in continuation of exchange from the following institutions:

Dudley Herbarium, 110 from Southern California collected by Prof. LeRoy Abrams; Field Museum, Chicago, 913 unmounted and 247 mounted miscellaneous; University of Montreal, 502 chiefly from Northern Canada; Pomona College, Claremont, Calif., 230, chiefly duplicates from the Jones Herbarium; University of Asiae Mediae, 175 from Turkestan. Arnold Arboretum, Harvard University, 150; J. F. Rock's collection in China, 54 from Australia and 18 North America; University of California, 385 flowering plants and 38 fungi; Dr. S. F. Blake, U. S. Dept. of Agriculture, 51 miscellaneous.

The following have been received by purchase: S. Venturi, 403, Argentina, South America; J. W. Blankinship, 599, Lake County; J. Aug. Kusche, 100, Southern Arizona; Ines Mexia, 351 Mt. McKinley National Park, Alaska.

The following gifts have been received: William Vortriede, 138 from Sacramento and mountains adjacent; The Swarth family, 179 from Lake Atlin region, British Columbia, collected on H. S. Swarth Ornithological Expedition to the region; Eric Walther, 500 exotics from Californian gardens; Mrs. Sidney Eastwood, 22 from Colorado; Mrs. S. D. McKelvey, 137 from Arizona; Mrs. Geo. H. Phelps, 100 from Idaho, Utah and Colorado; Julia McDonald, 32 from Fresno County, Calif.; Gwendolan Newell, 50, Silver Lake, Amador County, Calif.; Ines Mexia, 35, Mexico; Ivan Branson, 51, Tuolumne County, Calif.; John Thomas Howell, 1103 miscellaneous California plants; S. Jussel, 127

from Lake Tahoe region, Calif.; Ralph Hoffmann, 304 chiefly from the islands of Santa Rosa and Santa Cruz, Calif.; George Kramer, 25 from near Mt. Lassen. Several smaller gifts have been received, chiefly specimens for identification, and the names of the donors will be found in the general list.

The California Botanical Club has given a collection of water-color paintings of California flowers and also the case on which they will be exhibited in the Museum.

The herbarium has become the only reference place for the numerous exotics that are cultivated in the parks and gardens of California, and is consulted by gardeners and botanists from all parts of the state. The collection of Californian species is now necessary to those making special studies, and loans are sent to institutions and individuals for revisions and monographs.

The curator continues to give popular addresses on botanical subjects to schools and clubs, carries on the California Botanical Club which has meetings or excursions almost every week. The class of gardeners meets twice a month in the evenings at the herbarium. It enables the more ambitious gardeners to learn the names of the plants in the park.

The exhibition of native and the exotic flowers growing out-of-doors is kept up throughout the year by my assistant, Mrs. George H. Phelps. Mrs. E. C. Sutcliffe and Mr. Ivan Branson have helped greatly by collecting native species while Eric Walther is very faithful in furnishing the exotics, chiefly from the park. Hundreds of species are exhibited at the entrance of the Museum during the year, each labelled with scientific and common name also where collected, or, in the case of exotics, the native country. These exotics come from all parts of the world and the exhibit is one of the most valuable educational features of the Academy. My assistant also mounts all the specimens, does most of the distributing into the herbarium, attends to the care of fresh specimens that need drying, and in every way relieves the curator of much detail. During the past year John Thomas Howell has been employed as extra assistant for three months, doing valuable work in rearranging the herbarium, and in labelling and distributing specimens.

ALICE EASTWOOD, *Curator.*

## DEPARTMENT OF ENTOMOLOGY

Additions to the Department of Entomology during 1929 numbered 32,173 specimens. This number includes the J. O. Martin collection of Coleoptera which was announced as received two years ago but was not then enumerated among our accessions. Mr. Martin has now completed the incorporation of this collection, numbering 11,200 specimens, into the general collection of the Academy. The next largest single addition by gift was a series of 3859 miscellaneous insects other than Coleoptera, presented by Dr. E. C. Van Dyke from various localities in California, largely from the Sequoia National Park. Another gift of much value was a collection of 2,000 insects received from Mr. Louis S. Slevin of Carmel, a considerable portion of which are moths taken by him at night. These moths will add to our series of many interesting and valuable species and are especially welcome as the department staff has little

opportunity of doing such collecting. Mr. Gorton Linsley presented to the Academy 601 exotic insects, mostly European. From Mr. George Swarth the Academy secured by purchase 907 insects from about Atlin, B. C., among which was a good representation of the butterflies of that district, heretofore very poorly represented in our collection. From Mr. H. S. Parish the Academy secured by purchase 1,194 insects, mostly Coleoptera from the Province of Czechuen, China. Dr. F. E. Blaisdell gave us 279 insects other than beetles, from Santa Barbara, Calif., and New Hampshire. By exchange we received 92 South American insects from Dr. F. W. Goding, and by purchase 61 Edessas from South America needed to fill vacancies. Other valuable additions were 109 moths from Glacier National Park presented by Dr. E. H. Nast; 71 from Colombia, South America, presented by Mrs. S. C. Capp, 45 moths from Nicaragua, mostly beautiful specimens, presented by Mr. J. M. Nicol through Dr. G. Dallas Hanna; 17 collected by Mr. G. W. Heid in Sumatra and presented by Mr. Graham Heid; 14 Hemiptera from the Orient presented by Prof. T. D. A. Cockerell; 37 miscellaneous insects from California presented by Mr. E. R. Leach; 20 from Samoa presented by Mr. Alvin Seale, and by field work were added 2,336 specimens taken by Mr. J. O. Martin in Texas, and 8,620 secured by the curator. In addition should be mentioned probably three or four thousand beetles taken by Dr. Van Dyke which will be included in the final count of the Van Dyke collection and several hundred added by Dr. Blaisdell and Mr. L. S. Slevin to their collections of Coleoptera, now a part of the Academy collection.

The Department field work in 1929 consisted of a collecting trip by auto through Owen's Valley, going by Bakersfield and returning by Carson City and Tahoe. This was a section of the state almost unrepresented in our collections. Mr. Robert Usinger accompanied the curator as assistant. He proved to be an efficient and enthusiastic collector and should be credited with about half of the specimens taken. The curator also made a brief trip to Yorkville, Mendocino County, and another to Santa Cruz. Mr. Martin spent about two months near the former home of G. W. Belfrage near Waco, Texas, with the object of securing topotypical material of some of the many species described from material taken by Belfrage.

In 1929 the Department of Entomology suffered a sad loss in the death of Mr. Walter M. Giffard of Honolulu, who in the past, has been a good friend to the Academy and an active worker in its interest. It was through his influence that the Academy secured the very valuable Koebele collection, and only last year he presented to the Academy his large collection of North American Delphacidæ.

During 1929 the rearrangement in our unit boxes of the Academy's large collections of Coleoptera and Hemiptera progressed as rapidly as the acquisition of cases and drawers would permit. Work on the material in other orders of insects has had to await the purchase of necessary cases. As heretofore, Mr. Martin has worked on the Coleoptera, assorting and arranging the material in the various components of the Academy collection. For much of the past year Dr. Blaisdell has spent two days each week at the Academy working up the Academy material, including his own collection, in certain families of beetles, and Dr. Van Dyke has spent one day a week at the same work and has studied monographically several families at his home. The curator has found

time to study and arrange a few more families of the Hemiptera and has begun the arrangement of our butterflies in which work he has had help from Mr. Graham Heid.

The publication of the Pan-Pacific Entomologist has continued. Five volumes have been completed and volume six in is course of publication. This journal has furnished an outlet for all the shorter papers on the Academy collection of insects.

The need for more insect cases is as pressing as ever. The Academy accepted several large private collections of insects when it had no cases in which to place them. Each year a large proportion of the funds alloted to the Department of Entomology must go for cases and even that proves hardly more than enough to care for the natural growth of the department. A special appropriation is needed to secure cases for the rich material acquired with the Van Dyke, Blaisdell and Koebele collections.

E. P. VAN DUZEE, *Curator.*

## DEPARTMENT OF EXHIBITS

The work of overhauling the habitat groups in the Bird Hall was completed early in the year. Two floor cases were reconstructed to hold groups of Great Horned Owl and American Barn Owl respectively. These groups are of the same dimensions as our series of panel groups, and can be installed as such whenever opportunity offers.

The collection of modelled Fungi has been placed upon exhibition.

On May 17 I left San Francisco for the purpose of attending the annual meeting of the American Association of Museums in Philadelphia. The object of this visit was to organize a section of the association whose purpose should be the exchange of knowledge for betterment of all arts and crafts connected with the making and installation of museum exhibits. Thanks to the splendid cooperation received, this object was accomplished, and the Technical Section of the American Association of Museums is now functioning to the benefit of all concerned. Upon the return trip several eastern museums were visited and, thanks to the kindness and courtesy of the directors, curators, and preparators of these institutions, much information of value was secured. I returned to San Francisco June 8.

Several months of the year were taken up with the preparation of a scale model of our proposed African Mammal Hall. With the help of my assistants this has been completed. This scale model is as complete as it is possible to make it, and depicts one of the three halls that will be necessary to house the Simson African Mammal collection. It has been placed on exhibition in the California Mammal Hall, and is proving of value in many ways.

Miss Clara Tose rendered valuable assistance during the greater part of the year, leaving the department October 6. Mr. Richard Cayzer has been employed as assistant since October 30. Cecil Tose and Russell Hendrick have also been employed as part time assistants during the year.

FRANK TOSE, *Chief.*

## Department of Fishes

In the year 1929 the Curator and the Assistant devoted considerable time to reading proof of the new Check-List of the Fishes and Fishlike Vertebrates of North and Middle America north of the northern Boundary of Venezuela and Colombia, by Jordan, Evermann and Clark, which was published by the U. S. Bureau of Fisheries February 8, 1930.

As this Check-List includes 4137 species and subspecies admitted as valid, together with the reference to the original description of each, also to each of the more than 4,000 synonyms, it is really a check-list of all the names that have ever been applied to American freshwater and saltwater fishes. The publication contains 670 pages of which 158 are devoted to the Index in which there are more than 15,500 page references. This will give some idea of the great amount of labor and time that the proof-reading required.

The report on the fishes collected by the Academy's expedition to the Revillagigedo Islands in 1925 was completed in 1929, and the manuscript is now ready to send to the printer.

For several years the Assistant Curator has been assisting *Biological Abstracts* in the preparation and editing of abstracts of current ichthyological publications.

Abstracts prepared by the authors or others are referred to us by Biological Abstracts office from time to time for editing or completing. In many cases they are prepared here.

As a side product of this work, all new genera were card catalogued as they appeared, for use in a supplement to Jordan's Genera of Fishes, thus bringing that publication up-to-date. New species described from the territory covered by the new Check-List of Fishes were noted for inclusion in an addendum to that Check-List to be published in the near future.

From June 9 to June 16, was spent by the Assistant Curator with the aquarium collector on a trip to the desert about Salton Sea in search of desert minnows, *Cyprinodon macularius*. It was found that in the irrigation ditches this species had been mostly or altogether replaced by the Mosquito fish, *Gambusia affinis*. The desert minnows, of which a good number were finally secured, were found only in the highly saline waters of the lower stretches of San Felipe Creek, and in the Salton Sea itself. The Gambusias were at first not recognizable, being a brilliant turquoise blue, which is, indeed, the color of the male *Cyprinodon*. After a half-year's sojourn in the Aquarium they lost much of this color.

The general collection of fishes has been gone over from time to time and fresh alcohol added as needed. In addition to the general catalogue of serial numbers, a card catalogue has been made of all specimens as they are arranged on the shelves. Puzzling specimens when brought in are identified, and if not in the collection, or desired for any other purpose, are added, accessioned and cared for.

The most important event of the year in connection with the Department of Fishes was the securing of the Jordan-Eigenmann collection of fishes, by purchase from Indiana University.

This enormous and valuable collection of more than 220,000 specimens was begun in the early eighties by Dr. David Starr Jordan and his students at

Indiana University. It was greatly enlarged by Dr. Carl H. Eigenmann who was professor of zoology at Indiana University from 1891 until his death in 1927, assisted by his students. Dr. Eigenmann was especially interested in the fishes of South America, and the collections resulting from his many expeditions to that continent form, in the aggregate, the most complete and valuable ever assembled by any one ichthyologist. Besides the North American and the South American components, the Jordan-Eigenmann fish collection contains large representations of the fish faunas of Europe, Asia, the Philippines, the Hawaiian Islands, and many other parts of the world.

Last September, the Curator, the Assistant Curator and Superintendent Seale of the Aquarium went to Bloomington, Indiana, where they, assisted by local help, devoted the entire month of October to packing the collection and preparing it for shipment to San Francisco.

The collection was packed in 100 large earthen jars, 13 large boxes, and 500 large cartons.

A large freight car, such as is used in which to ship automobiles, was used and so securely were the many containers packed in the car that the shipment came through to San Francisco without loss or injury to a single specimen.

This great collection contains many types and cotypes and will be invaluable to specialists who are interested in the ichthyological fauna of the Americas and other countries of the Pacific area.

It is now temporarily installed in the basement of the Steinhart Aquarium where it is being unpacked, segregated and placed on shelves for further assortment and study.

In the East Wing of the Museum, upon which it is hoped construction will begin soon, will be provided a basement specially designed and up-to-date in every respect in which the fish collections will be installed and which will provide proper shelving, laboratory and library facilities and offices.

HOWARD WALTON CLARK, *Assistant Curator.*

## DEPARTMENT OF HERPETOLOGY

Owing to the proposed field work for the year 1929 which would necessitate a long period of absence in the field the entire collection of alcoholics was overhauled and specimen jars refilled when necessary to ensure the safety of the collection. This occupied considerable time, there being several thousand jars to be gone over. A thorough overhauling and examination was also given the collection of Galapagos tortoises, the work on both collections occupying about three months.

The greater part of the year 1929 was given to field work in Australia, the curator being absent in the field from June 27 to the end of the year. By the end of December 1,052 specimens from various localities had been collected and preparations made to continue the work during January and February of 1930.

Friends of the department have been generous during the year and gifts of specimens have been received as follows: From L. S. Slevin, 16; D. R. Bull, 2;

Charles E. Burt, 10; Hans Geyer, 6; Don C. Meadows, 1; Charles Toftley, 2; Dr. E. C. Van Dyke, 1; Dr. G. Dallas Hanna, 3; Dave G. Gamon, 1; H. S. Swarth, 17.

JOSEPH R. SLEVIN, *Curator.*

## DEPARTMENT OF LIBRARY

The work of the Library during 1929 proceeded mainly in accordance with the plans announced in last year's report. Temporary wooden shelves were installed early in the year. These, together with the space released by moving the stock of Academy publications from the store room to the lower corridor, and the mass of uncatalogued material from the lower library to the store room in turn, furnished room for shifting the whole collection forward, so that the badly crowded condition of the shelves could be relieved.

During the process all separate titles were inventoried by the shelf-list as they were moved. This took longer than it was expected to for it was found that many of the books had never been shelf-listed and most of those that were had no record of accession numbers. Consequently a large number of temporary shelf-list cards had to be made, thus slowing up the project so that it was not quite finished by the end of the year. Sets of serials were not inventoried at the time of moving. It is planned to begin doing this systematically as soon as the shifting is completed, when unbound volumes will be carefully checked and tied up and the missing numbers acquired if it is found still possible to get them.

The accessions for the year were as follows:

| | Bd. vols. | Unbd. vols. | Parts of vols. | Pamphlets | Maps |
|---|---|---|---|---|---|
| Exchange | 50 | 125 | 4063 | 89 | 127 |
| Gift | 54 | 46 | 1812 | 269 | 53 |
| Purchase | 363 | 239 | 1690 | 17 | 1 |
| Total | 467 | 410 | 7565 | 375 | 181 |

Among the reference books obtained for the main Library may be mentioned the United States Catalog of Books in Print January 1, 1928; the Union List of Serials in Libraries of the United States and Canada; the World List of Scientific Periodicals; Minerva, Jahrbuch der Gelehrten Welt, 1928; the 12th edition of the Dewey Decimal Classification. These have been in almost daily use since their acqusition. Other titles of unusual interest are: Index Londinensis to Illustrations of Flowering Plants, volume 1; Hegi's Illustrierte Flora von Mittel-Europa; Nouvelles Archives du Muséum d'Histoire Naturelle, Paris, 2d series, 3d series, and volumes 1-7, 9-10 of the 4th series; Donovan's Natural History of British Birds, 1794-1819; Rothschild's Extinct Birds, 1907; Bellardi & Sacco's Molluschi del Piemonte e della Liguria, 1873-1904; Bolten's Museum Boltenianum, part 2, 1906; Born's Testacea Musei Caesarei Vindobonensis, 1780; Martyn's Universal Conchologist, 1784.

The cataloguing accomplished during the year was practically none, due to every effort being expended on the shifting of the bookstock. New exchanges

added total 27, a small number but also due to the emphasis of the year's work elsewhere. The number of volumes bound was 144.

Miss Dora Arnold's part-time assistance in the Library ceased early in September when she left the Aquarium. The loss of her help, little as it was each day, is keenly felt and the amount of unshelved accessions that have accumulated in three months seriously congests the available working space in the Library. This will be quickly cleared up, however, early in 1930 upon the arrival of a temporary full-time assistant which the Council has kindly granted because of the assistant librarian's plans to undertake graduate work in bibliography at the University of California. Miss Phyllis Beardslee, Miss Arnold's successor, handled the Library's secretarial work very efficiently for the remainder of the year.

An item of passing interest is the adoption by the American Association of Museums of the practice of printing the Dewey classification number at the head of each article in The Museum News that is sponsored by and published for its Technical Section, the group formed by Mr. Tose of the Academy staff last Summer. The suggestion of thus printing the Dewey number, made by the assistant librarian and proposed by Mr. Tose, was intended as an aid not only to librarians but also to workers in the field who wish to keep their literature systematically arranged. The practice has been in use for some time by the American Museum of Natural History in their Novitates. The Dewey classification is the one used in the Academy Library, which will be greatly benefitted by the plans of the Library of Congress shortly to print the Dewey numbers on its catalogue cards.

The assistant librarian was appointed, in the Fall, secretary of the Special Libraries Section of the California Library Association, whose annual convention will be held next July in Los Angeles in conjunction with that of the American Library Association. He also served on the convention committee and was chairman of the directory committee of the local chapter of the national Special Libraries Association, and was elected in December president for 1930. The local chapter will be hosts in June to the national Association at their annual convention, the first on the Pacific coast. This convention will be significant to the Academy for among its meetings will be the first regular one to be held by the Museum Group of the Association.

The crying need of the Library is the same as emphasized in last year's report,—namely, sufficient income to provide not only the old and current literature so badly needed for the use of both staff and membership, but also adequate personnel so that the collection may be made to serve its clientele efficiently and constructively by anticipating in many cases its requirements.

THOMAS COWLES, *Assistant Librarian.*

## DEPARTMENT OF ORNITHOLOGY AND MAMMALOGY

The Curator and the Assistant Curator each spent about three-fourths of the year in curatorial duties and at studies that they have undertaken, the remaining quarter being devoted to field work. The Curator has continued to allot to the study of the Academy's collection of Galapagos Islands' birds just as much time as could possibly be spared from routine office duties for that

purpose; other minor researches (with the possible consequent publication of short papers) have been almost entirely abandoned for the time being. Mrs. Davidson's research program has included further work upon Mr. Loomis's unfinished "Monograph of the Tubinares," and on fossil whale material from the collection of the Department of Paleontology.

The Curator spent the period from June 9 to September 26 on a field trip to Atlin, in extreme northern British Columbia, making further observations and collections in a region wherein he has pursued field work on several previous years. The Swarth family participated in this trip, and members thereof collected plants and insects for other Academy departments. A special effort was made toward the collecting of juvenal and other little-known plumages of various northern birds, practically all of which material was new to the Academy collection. Mrs. Davidson left on October 25 for a three months' stay in the Republic of Panama. Her time was spent in Chiriqui Province and collections were made near the Costa Rican boundary at various elevations from sea level to 4,500 feet.

Mr. Joseph Mailliard, Curator Emeritus, has been actively engaged in bird-banding during the fall and winter months of the last year, in Golden Gate Park and at Woodacre, Marin County. Approximately 800 birds have been banded, and information of importance is gradually being accumulated and placed in proper shape for future use. An unexpected side-issue of the bird-banding was the collection of a series of microscope slides of blood-smears of *Zonotrichia nuttalli* and *Z. coronata*, gathered at the request of Dr. Clay G. Huff of the Harvard Medical School, and, according to information received from that gentleman, proving to be of unusual value in the research in which he is engaged.

Two important donations were received during the year. First, the H. S. Swarth collection of bird skins (3,150 specimens) was purchased and presented to the Academy by a donor who prefers to withhold his name. Then, the G. Frean Morcom collection of bird skins (3,000 specimens) was received as a gift from Mr. Morcom. These two collections are complementary to each other in some respects, and together they contain long series of specimens of species that heretofore were poorly represented or not contained at all in the Academy collection. The Morcom collection in particular contains many specimens of rare, near-extinct, and extinct species, mostly collected by Mr. Morcom, himself, forty or fifty years ago. While it is a matter of unqualified congratulation that the Academy should receive these rich additions to its collection, their acceptance entails heavy responsibilities on our part, for these gifts serve to emphasize still further the impossibly crowded condition in which the bird collection is now housed. As the storage rooms now are it will be impossible to rearrange cases and contents to incorporate the acquisitions of the year, so as to have the specimens properly convenient of access and hence of greatest possible use.

The department continues, as heretofore, to serve as a local bureau of information on questions pertaining to birds and mammals. Of greater importance is the use that is being made of our material by research students in other institutions. Our entire series of several species of birds and mammals are now on loan, giving important aid to studies of just the sort that the Academy should foster to the utmost of its ability. On the other hand, it is

proper to point out that the department is in receipt of quite as generous aid from other institutions, in recognition of the value of the work that we are carrying on.

In May, 1929, the annual meeting of the Cooper Ornithological Club was held in the Bay region, and on one of the two-day sessions the club was the guest of the Academy. About sixty members of the Cooper Club were in attendance.

On the whole, growth of the collections during the year was eminently satisfactory, and departmental work progressed about as satisfactorily as could be hoped for under existing crowded conditions. The outstanding needs of the department continue to be, in increasing measure: (1) Floor space, for storage cases and also for tables or benches to be used in cataloguing, studying and otherwise handling specimens. (2) A new metal-lined storage room for large mammals. (3) An additional assistant, the greater part of whose time could be devoted to field work. In addition, it would be desirable if an Assistant Curator of Mammals could eventually be appointed. There is not now, and never has been, anyone in the department primarily interested in mammals, and the mammal collection has not attained to the importance that it should.

Details of the several accessions are as follows: Birds. *Gift:* Anonymous, 3150; C. R. Boatright, 1; F. E. Booth, 4; D. B. Bull, 1; California Department of Natural Resources, Division of Fish and Game, 1; Department of Exhibits, California Academy of Sciences, 50; Mrs. Barton Warren Evermann, 315; E. E. Eyer, 1; E. W. Gifford, 7; F. W. Goding, 5; Hugh Logan, 1; Joseph Mailliard, 1; John McLaren, 3; James Moffitt, 2; G. Frean Morcom, 3000; Mori Bird Store, 5; J. V. Patton, 2; M. S. Ray, 1; A. W. Robison, 12; W. J. Steinbeck, 3; R. L. Thompson, 1; Henry Trost, 6; Henry Warrington, 1. *Expedition:* H. S. Swarth, 300. *Purchase:* 114.

Eggs. *Gift:* G. Dallas Hanna, 22 sets; Hugo Lotzen, 1 nest. *Expedition:* H. S. Swarth, 6 sets and nests.

Mammals. *Gift:* Brooklyn Museum, 2; Department of Exhibits, California Academy of Sciences, 37; Barton Warren Evermann, 15 (colored plates); Mrs. Barton Warren Evermann, 1; H. A. Haskell, 3; Joseph Mailliard, 2. *Expedition:* H. S. Swarth, 32 skins and 33 skulls.

HARRY S. SWARTH, *Curator.*

## DEPARTMENT OF PALEONTOLOGY

In order to prevent the collections of the department from completely outgrowing the available space for housing, exploratory work for the time being must be confined to the procuring of only such fossil material as will substantially aid in projects already under way. Much virgin territory remains to be examined for fossils and living shells in western North America, but much care must be exercised to prevent the accumulation of such a great amount of research material that effective study and orderly arrangement becomes impossible.

Following out the lines of investigation already begun, Mr. F. M. Anderson

made several trips to northern California during 1928 and secured a fine lot of Cretaceous fossils. Since the ammonites of this period are to be found at only a few favorable localities in the state and are greatly damaged by weathering, it is highly desirable that the ground be gone over thoroughly at frequent intervals.

Other important Cretaceous collections were obtained in Alberta by Dr. Leo George Hertlein while engaged in geological investigations for the Hudson's Bay Marland Oil Company of Canada. During this time he was on temporary leave of absence from the Academy.

The work of identification and cataloguing of the collection was continued as rapidly as possible. Through the efforts of Dr. Fred Baker and Mr. A. M. Strong several additional families of marine shells from Mexican waters were classified. As this work progresses the wealth of material obtained by the Academy's three recent expeditions becomes more evident. Mr. Strong likewise was responsible for the preparation of lists of the marine shells from Guadalupe Island and the Revillagigedo Islands.

During the summer Dr. H. B. Baker, of the University of Pennsylvania, collected land and freshwater mollusca extensively in the west and it was possible for Mr. John L. Nicholson and the curator to accompany him to Klamath Lake, Oregon, for a few days. A large amount of excellent material was obtained on this short field trip.

More valuable collections of foraminifera were added to the collections during 1929 than during any previous year of existence of the department. Fortunately such fossils take up little room. The field work was done by Mr. C. C. Church and the curator through the sympathetic cooperation of Mr. L. C. Decius, Chief Geologist of the Associated Oil Company. Additional fossil diatom material of great value was obtained through many channels.

The acquisition of the great Baldwin collection of shells has been noted in the report of the Director for 1928. This fine accession was a gift to the Academy and a direct result of the interest in the institution held by Mr. Church. It is a matter of great regret on the part of the staff of the department that sufficient storage cases are not available for the unpacking of the entire collection and there is no available room for them if cases were on hand. By condensing and consolidating some of the present collections to the greatest possible degree it is hoped that room will be provided for the placing of the most important of the Baldwin shells in the research series.

Much use has been made of the Academy's paleontological collections by students elsewhere, particularly from the University of California and Stanford University. Among others who should be mentioned are: Dr. H. A. Pilsbry, Academy of Natural Sciences, Philadelphia; Prof. Junius Henderson, University of Colorado; Dr. H. B. Baker, University of Pennsylvania; Mr. Allyn G. Smith, Berkeley, California; and Dr. Mary J. Rathbun, U. S. National Museum.

The research work carried on in the department has been greatly facilitated by the assistance rendered by Mr. Thomas Cowles, Assistant Librarian. His ever ready willingness to take the necessary steps to procure needed books, either by purchase or loan, has been of much help in the progress of our investigations.

Outstanding loans of research material at the end of the year were as follows: Mr. A. M. Strong, Los Angeles, Calif.; Dr. Fred Baker, Point Loma, Calif.; Dr. Bryant Walker, Detroit, Mich.; Mr. Allyn G. Smith, Berkeley, Calif.; Dr. S. Stillman Berry, Redlands, Calif.; Dr. Paul Bartsch, U. S. National Museum, Washington, D. C.; Dr. Hubert G. Schenck, Stanford University, Calif.; Miss Nellie M. Tegland and F. Earl Turner, University of California, Berkeley, Calif.; Dr. Arthur Hollick, New York Botanical Garden, New York, N. Y.; Dr. H. McMillan, Natural History Museum, Stanford University, California.

G. DALLAS HANNA, *Curator*.

## DEPARTMENT OF STEINHART AQUARIUM

The year 1929 has been a very satisfactory one for the Aquarium. The exhibits have steadily increased in number, interest and attractiveness. The attendance has been large. More than six million people have visited the institution since its opening in 1923.

Gifts received have been numerous and valuable. A friend of the Aquarium has written into her will a legacy to provide a comfortable and proper place for turtles and amphibians. The donor desires her name withheld for the present. An interesting collection of 81 live Australian fishes, including 40 sea horses, was received from the Aquarium in Sydney. The New York Aquarium presented six horseshoe crabs. Superintendent John McLaren presented six large clusters of bamboo, which add greatly to the attractiveness of the swamp room. The total number of gifts exclusive of several thousand small fishes, numbered 429 and includes seven live alligators, one crocodile, two seals, two sea lions, and a large number of other live animals. A complete list with the name and address of each donor will be found in the files of the Aquarium.

From April 25 to June 14 a collecting trip to Pago Pago, Samoa, was made by the Superintendent and 321 beautifully colored tropical fishes were brought back alive and placed in the exhibition tanks. Volunteer assistance on this trip was given by Mrs. Seale, who by special invitation visited Samoa as a guest of the Matson Navigation Company.

During the months of October and November all of the large aquariums in the United States were visited by the Superintendent and their exhibits and methods of operation carefully observed and noted. The annual convention of Park and Aquarium Executives at Miami, Florida, was attended on November 19-21, at which an address on public aquariums was given by the Superintendent.

On December 31 Mr. Wallace Adams resigned as Assistant Superintendent of the Aquarium to accept a position in the Bureau of Science, Philippine Islands. The entire personnel of the Aquarium will miss the cheerful presence of Mr. Adams.

On December 31, 1929, the following animals were on exhibition at the Aquarium:

| | | |
|---|---|---|
| Mammals | 11 of | 3 species |
| Birds | 1 of | 1 species |
| Reptiles | 208 of | 33 species |
| Batrachians | 53 of | 9 species |
| Fishes | 9375 of | 282 species |
| Invertebrates | 41 of | 31 species |
| Total | 9689 of | 359 species |

For the coming year the following improvements are suggested: That we ask the city for a new wing for additional tropical saltwater fishes, as suggested by President Grunsky; that the court in front of the Aquarium and around the seal pools be properly paved; that filters for the water in the seal pools be installed; that a collector be sent to Lower California; that the guide book be published; that the swamp be revamped and more plants be placed in the building.

ALVIN SEALE, *Superintendent.*

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## ACKNOWLEDGMENTS

The number of those who in the past year have donated valuable specimens to the Museum or who have assisted the Academy in other ways, has been unusually large. To all who have thus shown their interest in the Academy, and their appreciation of what the Academy is doing, our grateful thanks are due. The research materials in every department have been greatly increased through the many large and valuable collections that have been received.

Special mention should be made of the courtesies extended to the Academy by the Southern Pacific Company, the Atchison, Topeka, and Santa Fe Railway System, the Matson Navigation Company, and the Los Angeles Steamship Company. Each of these companies continues to cooperate with the Academy by furnishing reduced transportation to members of the staff when engaged in field work.

## ACCESSIONS TO THE MUSEUM AND TO THE LIBRARY

Following is a List of Accessions to the Museum and Library received in 1929:

Adams, Wallace, Steinhart Aquarium, San Francisco: 1 book, Standard Specifications and Tests for Portland Cement, 1917; 5 U. S. Government pamphlets; 1 pamphlet on Salmon; 2 pamphlets with set of charts; 40 folded maps; 4 numbers of Tycos. Gift.

Anderson, Frank M., California Academy of Sciences, San Francisco: 1 geological pamphlet. Gift. 1,000 fossil shells from northern California. Exploration.

Alepretti, Joe, Fishermen's Wharf, San Francisco: 1 Boa (*Boa imperator*), received in a shipment of bananas from Central America. Gift.

Allyne, Misses E. and L., 2609 Gough Street, San Francisco: 2,938 shells from numerous localities. Gift.

Anonymous: The H. S. Swarth collection of 3,150 bird skins, from California, Arizona, and Illinois. Gift.

Apolinar-Maria, Father, Bogota, Colombia, S. A.: 226 miscellaneous Hemiptera from Colombia, South America. Gift.

Arnold Arboretum, Jamaica Plain, Mass.: 150 botanical specimens from Asia, 54 from Australia, and 18 from America. Exchange.

Art, Historical and Scientific Association of Vancouver, B. C.: 3 pamphlets on miscellaneous subjects. Gift.

Asociaciön Argentina de Electrotécnicos, Buenos Aires, Argentina: 1 copy Boletin, número extraordinario (Volta). Gift.

Associated Oil Company, San Francisco: 65 numbers of California Oil World; 10 numbers of Oil Weekly, 1929; 24 periodicals of the oil industry; 1 lot of well cores. Gift.

Baker, Dr. Fred, San Diego, Calif.: 1 lot of paratypes of freshwater and marine shells; 3 volumes on natural science. Gift.

Barker, Fred, Parkers Prairie, Minnesota: 4 bird skins from Minnesota. Purchase.

Barnhart, P. S., Scripps Institution, La Jolla, Calif.: 2 minnows (*Leuciscus balteatus*), from Sweetwater Reservation, October 11, 1929, and two Trunkfish (Sphœroides), from the stomach of a Tuna taken near Soccoro Island, May 1, 1929. Gift.

Barry, David, Jr., 1001 S. La Brea Ave., Los Angeles: 2 Blue-headed Quail-Doves (*Starnœnas cyanocephala*). Gift.

Bird, Henry, Rye, New York: 1 pamphlet: A Proposed Type of American Garden, by Henry Bird and Louise Knapp. Gift.

Bishop Museum library, Bernice P., Honolulu, T. H.: 1 pamphlet on San Francisco. Gift.

Blaisdell, Dr. F. E., California Academy of Sciences, San Francisco: 231 miscellaneous insects from Santa Barbara, Calif., and 48 from New Hampshire; 1 pamphlet on annelid worms; 1 U. S. Agriculture Dept. Leaflet 37, 1929. Gift.

Blankinship, J. W., Berkeley, Calif.: 599 botanical specimens from Lake County, Calif. Gift.

Boatright, C. R., 534 Eleventh Ave., San Francisco: 1 Nicobar Pigeon (*Calœnas nicobarica*). Aviary specimen. Gift.

Booth, F. E., Woodland, Calif.: 1 Martineta Tinamou (*Calopezus elegans*); 3 Bornean Argus Pheasants (*Argusianus grayi*), and 1 Burmese Peacock (*Pavo muticus*). Aviary specimens. Gift.

Bransom, Ivan, 1290 Hayes Street, San Francisco: 51 botanical specimens from California. Gift.

British Columbia, University of, Vancouver, B. C.: 1 pamphlet. Gift.

Brooklyn Museum, Eastern Parkway, Brooklyn, N. Y.: 2 skulls of the Southern Elephant Seal (*Macrorhinus leoninus*), from South Georgia. Gift.

Building Owners and Managers Association, Los Angeles, Calif.: 1 book: Southern California Geology and Los Angeles Earthquakes, 1928, by Robert T. Hill. Gift.

Bull, D. B., San Jose, Calif.: 1 Trudeau's Tern (*Sterna trudeaui*), from Argentina, S. A.; 2 lizards from Bahia, Brazil. Gift.

Burt, Charles E., Ann Arbor, Mich.: 6 lizards from Kansas, 2 frogs from Michigan, 1 snake from Michigan, and 1 lizard from Texas. Gift.

California Botanical Club, San Francisco: 244 water-color pictures of California wild flowers painted by Sophie H. Fauntleroy, with rack for their exhibition. Gift.

California State Department of Natural Resources, Division of Fish and Game, 510 Russ Building, San Francisco: 1 Whistling Swan (*Olor columbianus*), from Merced Co., Calif.; 1 Red-throated Loon (*Gavia stellata*). Gift.

California Division of Mines and Mining, San Francisco: 1 Geological Map of the State of California. Gift.

California Taxpayers' Association, 417 South Hill Street, Los Angeles: 1 pamphlet. Gift.

Campbell, Mrs. Constance W., California Academy of Sciences, San Francisco: 1 pamphlet. Gift.

Capp, Mrs. S. C., San Francisco: 71 miscellaneous insects from Colombia, South America. Gift.

Carnegie Institution of Washington, Washington, D. C.: 17 publications Gift.

Chambers, W. Lee, Los Angeles, California: Publication, nos. 1, 2, Pasadena Academy of Sciences. Gift.

Christoffersen, A., L. C. Smith Building, Seattle, Washington: 1 copy of Report of Alaska Fishery Investigations in 1914, by E. Lester Jones. Gift.

Clark, H. Walton, California Academy of Sciences, San Francisco: 1 pamphlet of Indiana University; 4 specimens of California plants; 41 numbers of various periodicals. Gift.

Collings, Ralph, P. O. Box 684, San Francisco: 2 pamphlets; A Philosophy of Gravitation, by Ralph Collings. Gift.

Compagne de Saint-Gobain, Direction Générale des Glaceries, 1 bis, Place des Saussaies, Paris, VIII, France: 1 pamphlet on Astronomy. Gift.

Comparative Zoology, Museum of, Cambridge, Mass.: 1 mounted skeleton of the Great Auk (*Plautus impennis*), from Funk Island. Purchase.

Cook, Melville T., Insular Experiment Station, Rio Piedras, Porto Rico: 1 pamphlet: The Gummosis of Sugar Cane, by Melville T. Cook. Gift.

Cooper Ornithological Club, Calif.: Program of 4th Annual Meeting, May 17-19, 1929 at San Francisco and Berkeley. Gift.

Eastwood, Miss Alice, California Academy of Sciences, San Francisco: 39 botanical specimens from San Luis Obispo County, Calif., 825 from Arizona, and 23 from Calaveras Grove of Big Trees, Calif. Exploration. 2 books, 2 pamphlets, and 59 periodicals on various subjects. Gift.

Eastwood, Mrs. Sidney, 4360 Umatilla Street, Denver, Colorado: 22 botanical specimens from Colorado. Gift.

Edwards, Harmon, Hayward, Calif.: 1 Indian bead necklace. Gift.

Ellis, Ralph, Jr., 2420 Ridge Road, Berkeley, Calif.: 3 Eastern Brook Trout (*Salvelinus fontinalis*), summit of Secret Pass, Ruby Mountains, Elko County, Nev. Gift.

Evermann, Dr. Barton Warren, California Academy of Sciences, San Francisco: 15 colored pictures of mammals; 7 zoological periodicals, 1,324 copies of various magazines, and 48 pamphlets and periodicals; 1 pamphlet and 2 periodicals of the Milwaukee Public Museum; 51 numbers of Tea Bee and 5 reprints from Proceedings of Third Pan-Pacific Science Congress, Tokyo, 1926. Gift.

Evermann, Meadie Hawkins (Mrs. Barton Warren Evermann), Berkeley, Calif. (through Dr. Evermann): 315 bird skins from Indiana, Wyoming, Oregon, Washington, California, and District of Columbia; 58 sheets of marine algæ from Woods Hole, Massachusetts, and 1 specimen of *Primula suffrutescens* Gray, collected by Dr. Evermann on Mt. Whitney, July 27, 1904. Gift.

Ewetz, Carl Evert: 1 book: Weitere Beiträge zur Kenntnis der Visingsöformation, by Carl Evert Ewetz, 1929. Gift.

Exhibits, Department of, California Academy of Sciences, San Francisco: 1 skeleton of California Otter (*Lutra pacifica brevipilosus*) from Sutter County, Calif.; 50 bird and 35 mammal skins from San Diego and Imperial counties, Calif. Gift.

Eyer, E. E., Marshall, Calif.: 1 Western Robin, in flesh, from Marin County, Calif. Gift.

Far Eastern Geophysical Observatory, Vladivostock, U. S. S. R.: 1 copy, Everfrozen of Soil in the Boundaries of U. S. S. R., by M. Soumgin. Gift.

Field Museum of Natural History, Chicago, Illinois: 913 specimens of unmounted and 247 of mounted plants from various regions. Exchange.

Fisher, Russell, Culver, Indiana: 27 specimens (8 species) of fishes, from Indiana; 13 reptiles from Lake Maxinkuckee, Indiana. Purchase.

Földtani Szemle, Múzeum-Körut 4, Budapest VIII, Hungary: 1 Geological pamphlet. Gift.

Fox, C. L., England (presented before his death): 142 miscellaneous insects. Gift.

Gamon, Dave. G., San Francisco: 1 Rattlesnake (*Crotalus cerastes*) from Muroc, California. Gift.

Gaylord Bros., Inc., Stockton, Calif.: 2 pamphlets on bookbinding. Gift.

Geiser, S. W. Southern Methodist University, Dallas, Texas: 1 copy of Naturalists of the Frontier, by Samuel W. Geiser, and 1 copy of Professor Jacob Boll and the Natural History of the Southwest, 1929. Gift.

Geyer, Hans, Regensburgh, Germany: 6 salamanders. Gift.

Gifford, E. W., Museum of Anthropology, Affiliated Colleges, San Francisco: 2 Verreaux's Dove (*Leptoptila verreauxi*), 1 Picui Dove (*Columbula picui*), 2 Slender-billed Cuckoo Doves (*Macropygia tenuirostris*), 1 Red Turtle Dove (*Oenopopelia tranquebarica*), and 1 Barred-wing Dove (*Chrysauchœna humeralis*). Aviary specimens. Gift.

Goding, Dr. F. W. (through Mrs. E. P. Van Duzee), Livermore Falls, Maine: 5 bird skins from South America; 92 miscellaneous insects from Guayaquil, Equador. Gift.

Grinnell, Fordyce, Jr.: 98 miscellaneous insects from the Philippine Islands. Gift.

Grunewald, Richard, 3043 Clement Street, San Francisco: 1 volume: Chamisso's Werke. Gift.

Grunsky, Dr. C. E., 57 Post Street, San Francisco: 1 volume: Ways to National Prosperity, by C. E. Grunsky. Gift.

Haley, Dr. George, Berkeley, Calif.: 47 botanical specimens from Mt. Washington, New Hampshire. Exploration.

Hall, William Hammond, 3855 Jackson Street, San Francisco: 9 photographs of the California Academy of Sciences Building taken after the earthquake and fire of 1906. Gift.

Halperin, A. Z., Chicago, Illinois: Subscription to "The Reflex." Gift.

Hanna, Dr. G. Dallas, California Academy of Sciences, San Francisco: 68 miscellaneous insects from Poso Creek, Calif., 3 sets of eggs from Kern County and 18 sets from San Mateo, Lake, Santa Clara, and Mendocino counties, Calif.; eggs of California Horned Lark, ⅓ from McLure Valley, Kings County, Calif.; 3 salamanders from Guyama River, 9 miles S. E. of Santa Maria, Calif.; 1 geological map, 129 pamphlets and 9 periodicals on various subjects; 6 pamphlets on diatoms and 1 on mollusks; 1 excerpt and 9 pamphlets on geological subjects; 58 numbers of various periodicals. Gift.

Hanna, Dr. G. Dallas, and Nicholson, J. L., California Academy of Sciences, San Francisco: 5,000 living shells from northern California and southern Oregon. Exploration.

Hart, Cecil, 132 North Third Street, Montebello, Calif.: 5 specimens of California plants. Gift.

Haskell, Dr. H. A., Grand Southern Hotel, San Francisco: Some limb bones of the California Sea Lion (*Zalophus californianus*), and 2 tympanic bones of a Sulphur-bottom Whale (*Sibbaldus musculus*). Gift.

Heid, Graham, Alameda, Calif.: 17 miscellaneous insects from Sumatra. Gift.

Herron, Miss Katherine, San Francisco: 1 copy of Who's Who in California, 1928-29. Gift.

Hertlein, Leo George, California Academy of Sciences, San Francisco: 2 boxes of Cretaceous fossils from Alberta, Canada; 1 pamphlet on mollusca; 1 pamphlet on San Francisco, and 1 geological pamphlet; 4 numbers of San Diego Natural History Museum Bulletin. Gift.

Hendrick, Russell, San Francisco: 1 snake (*Thamnophis ordinoides elegans*) from Baltimore Park, Marin County, Calif. Gift.

Hoffmann, Ralph, Santa Barbara, Calif.: 304 botanical specimens from Santa Cruz and Santa Rosa islands, Calif. Gift.

Holme, Adolph, Redwood City, Calif.: 4 specimens of cultivated plants. Gift.

Howell, John Thomas, University of California, Berkeley, Calif.: 1201 specimens of California plants, 18 of them duplicates. Gift.

Illinois, University of, Museum of Natural History, Urbana, Illinois: 2 pamphlets on natural history subjects. Gift.

Indiana University, Bloomington, Ind.: The Jordan-Eigenmann Collection of Fishes, consisting of more than 220,000 specimens and containing many types and cotypes. Purchase.

Institute of International Education, New York, N. Y.: 1 copy, Directory of Russian Educators, Research Specialists, and Scientists now living in Europe. Gift.

Irving-Cloud Publishing Co., Chicago, Illinois: 1 book on motor maintenance. Gift.

Istituto di Zoologia ed Anatomia Comparata, Siena, Italy: 28 separates by members of the staff of the Istituto. Gift.

Israelsky, Merle C., Shreveport, Louisiana: 1 pamphlet on Cretaceous Ostracoda of Arkansas, 1929. Gift.

Jordan Game Farm, Woodland, Calif.: 1 Green Peacock (*Pavo muticus*). Gift.

Jussel, M. S., Polytechnic High School, San Francisco: 127 specimens of California plants. Gift.

Kahn, Mrs. Florence, Washington, D. C.: 1 book, The Tariff Bill of 1929; a copy of the Congressional Directory, 71st Cong. 2d Sess. Gift.

Kavanaugh, James, Steinhart Aquarium, San Francisco: 3 numbers of San Francisco Police and Peace Officers Journal. Gift.

Klocker, Mrs. Ada, Medford, Oregon: 3 specimens of Oregon plants. Gift.

Kusche, J. August, Los Angeles, Calif.: 100 botanical specimens from Arizona. Purchase.

Lamme, Sam, Colusa, Calif.: 1 river otter (*Lutra canadensis brevipilosus*) female, from Sacramento Valley. Purchase.

Lastreto, Carlos B., San Francisco, Calif.: 1 pamphlet on South America and 68 miscellaneous periodicals. Gift.

Laycock, H., Tegucigalpa: Jaws of a large Tiger Shark (*Galeocerdo arcticus*) from the Gulf of Fonseca. Gift.

Leach, E. R., 217 Hillside Avenue, Piedmont, Calif.: 37 miscellaneous insects from California. Gift.

Linsley, Gorton, 2050 Tenth Avenue, Oakland, Calif.: 601 miscellaneous exotic insects. Gift.

Logan, Hugh, Inverness, Calif.: 1 Harlequin Duck (*Histrionicus histrionicus pacificus*); and 1 Emperor Goose (*Philacte canagica*) from Marin County, Calif. Gift.

Lotzen, Hugo, 3144 22nd Street, San Francisco: 1 nest of the Water Ouzel (*Cinclus mexicanus unicolor*) from Nevada County, Calif. Gift.

Lowe, H. N., Los Angeles, Calif.: 1 lot of paratypes of land snails. Gift.

Mailliard, Joseph, California Academy of Sciences, San Francisco: 1 Gambel's Sparrow (*Zonotrichia gambelii*) and 2 California Pocket Gophers (*Thomomysottæ bottæ*) from Marin County, Calif.; 1 land snail from Bohemian Grove, Calif. Gift.

Martens, Carl F., 2320 Webster Street, Berkeley, Calif.: 1 piece of quartz from Tioga Pass, Calif. Gift.

Martin, Half Moon Bay, Calif.: 1 fish (*Hemilepidotus hemilepidotus*) from Half Moon Bay, Calif. Gift.

Martin, H. M., 503 Lemon Avenue, Arcadia, Calif.: 15 reptiles from southern California. Gift.

Martin, J. O., California Academy of Sciences, San Francisco: The J. O. Martin Collection of Coleoptera, 11,200 specimens; 1 Report of the U. S. National Museum, 1928. Gift.

Marvin, Mrs. L. F., 1230 Geary Street, San Francisco: 1 feather pom-pom from South American Indians; 2 bundles of pig bristles. Gift.

McAllister, M. Hall, California Academy of Sciences, San Francisco: 1 periodical; 12 numbers of the Scientific American. Gift.

McCorkle, Kenneth, 38 Uplands, Berkeley, Calif.: 1 Alaska Grayling (*Thymallus signifer*) from outlet of Surprise Lake, east of Atlin, B. C. Gift.

McDonald, Miss Julia, 1221 Lombard Street, San Francisco: 32 botanical specimens from Fresno, Calif. Gift.

McGuire, Ignatius, Princeton, New Jersey: 1 periodical; 1 scientific pamphlet. Gift.

McKelvey, Mrs. Susan D., 1666 Riverway, Boston, Mass:. 71 botanical specimens from Arizona. Gift.

McLaren, John, Golden Gate Park, San Francisco: 1 Chattering Lory (*Lorius garrulus*); 1 Beaver, 1 Chukar Partridge (*Alectoris græca chukar*); 1 Sulphur-crested Cockatoo (*Kakatoë galerita*). Gift.

Meadows, Don C., Santa Catalina Island, Calif.: 1 water snake. Gift.

Mexia, Mrs. Inez, 1909 Lake Street, San Francisco: 22 botanical specimens from Mexico and 13 from California. Gift. 351 botanical specimens from McKinley National Park, Alaska. Purchase.

Milks, Jack, Padre Hotel, Bakersfield, Calif.: 1 shark tooth from Shark Tooth Hill, Kern County, Calif. Gift.

Moffitt, James, 1879 Broadway, San Francisco: 1 Farallon Cormorant (*Phalacrocorax auritus albociliatus*), and 1 Baird's Cormorant (*Phalacrocorax pelagicus resplendens*) from Marin County, Calif. Gift.

Montandon, Dr. George, Rue Louis-Guespin, 22, Paris-Clamart, France: 1 pamphlet. Gift.

Morcom, G. Frean, 243 N. Coronado Street, Los Angeles, Calif.: The Morcom collection of 3,000 bird skins from the United States. Gift.

Mori, T., 94 Golden Gate Avenue, San Francisco: 1 Swinhoe Pheasant (*Gennæus swinhoii*); 1 Fire-back Pheasant (*Lophura ignita*); 2 Bullfinches (*Pyrrhula pyrrhula*); 1 Forsten's Lory (*Trichoglossus forsteni*). Gift.

Morrice, Charles, Bakersfield, Calif.: 1 small box of fossils from Kettleman Hills; 1 box of fossils from Kern County, Calif., and some vertebrate fossil material from Shark Tooth Hill, Kern County, Calif. Gift.

Morse, Elizabeth, Department of Botany, University of California, Berkeley, Calif.: 1 small box of concretions from between El Centro and San Diego, Calif. Gift.

Morrison, Mrs. A. F., San Francisco: 1 copy of Who's Who in California, 1928-29. Gift.

Museum of Comparative Zoology, Cambridge, Mass.: 1 mounted skeleton of the Great Auk (*Plautus impennis*) from Funk Island. Purchase. One photograph of a mounted specimen of the Great Auk. Gift.

National Research Council of Japan, Tokyo, Japan: 2 volumes: Proceedings of the Third Pan-Pacific Science Congress, Tokyo, 1926. Gift.

Natuurwetenschappelijke Raad voor Nederlandsch-Indië: 1 pamphlet, a catalogue of literature on the study of science in the Dutch East Indies. Gift.

Netherlands Indies Medical and Sanitary Service, Weltevreden, Java: 1 volume: Control of Endemic Diseases in the Netherlands Indies, 1929. Gift.

Newell, Mrs. Gwendolen, 180 Duboce Street, San Francisco: 60 specimens of plants from Silver Lake, Amador County, Calif. Gift.

Nicholson, J. L., Jr., Berkeley, Calif.: Vermont State Geologist's 16th Annual Report. Gift.

Nicol, J. M., Babilonia Mines, La Labertad, Chontales, Nicaragua: 45 moths from Nicaragua. Gift.

Nolla, J. A. B., Insular Experiment Station, Rio Piedras, Porto Rico: 1 copy of The Black-shank of Tobacco in Porto Rico, by J. A. B. Nolla. Gift.

Nye, Clarice, Prospect, Oregon: 5 botanical specimens from Oregon. Gift.

Pammel, Dr. L. N., Iowa State College, Ames, Iowa: 2 pamphlets. Gift.

Parish, H. S., 15 Briarcroft Road, Toronto, Canada: 66 moths from the Southwestern States. Gift; 838 miscellaneous insects from China and 290 from Mexico and Trinidad Island, B. W. I. Purchase.

Patton, J. V., Hollister, Calif.: 1 Formosan Partridge (*Arboricola crudigularis*) and 1 Chukar (*Alectoris græca chukar*). Aviary specimens. Gift.

Peers, Miss Susie, M., California Academy of Sciences, San Francisco: Current files of Science, Manchester Guardian, weekly edition, and Standard Oil Bulletin. Gift.

Phelps, Mrs. G. H., 580 McAllister Street, San Francisco: 100 botanical specimens from Idaho, Utah, and Colorado. Gift.

Philippines, University of, Agricultural College, Laguna, P. I.: 1 copy of A Preliminary Study of the Life History and Habits of Kanduli in Laguna de Bay, July 1929. Gift.

Pierce, J. H., Paso Robles, Calif.: 1 whale skull. Purchase.

Port of New York Authority, The, New York, N. Y.: The Port of New York Authority, 8th Annual Report, December 31, 1928. Gift.

Purdy, Carl, Ukiah, Calif.: 4 specimens of cultivated plants. Gift.

Quayle, Ernest, Stanford University, Calif.: 1 photostat copy of map of the world showing coral reefs. Gift.

Ransier, H. E., Manlius, N. Y.: 9 photographs of California Academy of Sciences's mammal habitat groups. Gift.

Ray, Milton S., 2901 Broadway, San Francisco: 1 Black-billed Magpie (*Pica pica hudsonia*) from Placer County, Calif. Gift.

Rhodda, Mrs. Anna, 2616 Sacramento Street, San Francisco: 6 botanical specimens from Sonoma County, Calif. Gift.

Robison, Ansel, 1072 Market Street, San Francisco: 2 Kuhl's Ruffed Lories (*Vini kuhli*) from Washington Island; 1 Hyacinthine Macaw(*Anodorhynchus hyacinthinus*); 1 White Cockatoo (*Kakatoë galerita*); 1 Petz' Paroquet (*Eupsittula canicularis*); 1 Tovi Paroquet (*Brotogeris jugularis*) from Central America; 1 Blue Java Sparrow (*Munia oryzivora*); 1 Society Finch (*Uroloncha striata*); 1 Black-headed Nun (*Munia atricapilla*); 2 Strawberry Finches (*Amandava amandava*); 1 Philippine Hanging Paroquet (*Loriculus apicalis*). Aviary specimens. Gift.

Rosenberg, W. F. H., 57 Haverstock Hill, London, N. W. 3., England: 113 bird skins. Purchase.

Rountree, Mrs. Lester, Carmel, Calif.: 14 botanical specimens. Gift.

Royal Library, The Hague, Holland: 4 pamphlets on various subjects. Gift.

Sanford, Mrs. O. N., 152-7th Avenue, San Francisco: 8 boxes of shells; 21 bound volumes and 12 pamphlets on various subjects; 1 pamphlet on Indians. Gift.

Science Society of China, Nanking, China: 1 pamphlet. Gift.

Scripps Institution of Oceanography, La Jolla, Calif.: 1 pamphlet on Diatoms. Exchange.

Seale, Alvin, Steinhart Aquarium, San Francisco: 20 miscellaneous insects from Samoa. Gift.

Siebenbürgischer Verein für Naturwissenschaften, Hermannstadt, Roumania: 2 publications. Exchange.

Sinseheimer, Miss Gertrude, San Luis Obispo, Calif.: 2 botanical specimens from California. Gift.

Slevin, L. S., Carmel, Calif.: 26 land and freshwater shells from Paso Robles, Calif.; 2 snakes and 1 salamander from San Jose Canyon, Carmel, Calif.; 1 snake from Aptos, Santa Cruz County, Calif.; 6 salamanders from Carmel, Calif.; 1 small lot of freshwater snails from Paso Robles, Calif.; 2000 insects, mostly moths, from California. Gift.

Smith, A. G., Berkeley, Calif.: 3 specimens of Red Abalone from the coast 3 miles north of Gualala, Calif. Gift.

Smith, James Perrin, Stanford University, Calif.: 1 copy of The Transitional Permian Ammonoid Fauna of Texas, by James Perrin Smith. Gift.

Sociedad de Anthropologia y Etnographia de Mexico, D. F., Mexico: 1 copy of Monografia de los Tarahumaras, by Carlos Basauri. Gift.

Society of Motion Picture Engineers, 29 West 39th Street, New York, N. Y.; 1 copy of The Society of Motion Picture Engineers; Its Aims and Accomplishments; Synopses of Papers Published; with author and subject indices; committees, July, 1916-April, 1928. Gift.

Staudinger, O., and Bang-Haas, A., Germany: 61 Hemiptera. Purchase.

Steinbeck, J. W., 611 Bristol Avenue, Stockton, Calif.: 2 Chinese Peacock Pheasants (*Polyplectrum chinquis*); 1 Indian Bronze-wing Dove (*Chalcophaps indica*). Aviary specimens. Gift.

Steinhart Aquarium, Golden Gate Park, San Francisco: 1 fish (*Thalassoma fuscum*); 11 specimens of two species of fishes; 2 Lampreys (*Entosphenus tridentatus*), from mouth of San Lorenzo River, March 29, 1929. Gift. 3 Mosquito Fish (*Gambusia affinis*), from Irrigation ditch near Coachella, Calif. Exploration.

Stevens, J. B., Bakersfield, Calif.: 2 specimens of fossil nuts; 100 fossil shells from Kern County. Gift.

Stewart, George W., Box 1132, Sacramento, Calif.: 1 copy of Prehistoric Basins in the Sierra Nevada of California, 1929. Gift.

Stohler, Dr. Rudolf, Hooper Foundation for Medical Research, San Francisco: 3 biological pamphlets. Gift.

Sutcliffe, Mrs. E. C., 700 Lake Street, San Francisco: 20 botanical specimens from Yosemite National Park; 15 botanical specimens from Sullivant Moss Society, Superior, Wisconsin; 3 volumes of The Bryologist. Gift.

Swarth, George, 2800 Prince Street, Berkeley, Calif.: 907 miscellaneous insects from Atlin, British Columbia. Purchase.

Swarth, Harry S., California Academy of Sciences, San Francisco: 32 mammal skins and 33 skulls, 296 bird skins, 6 sets (26 eggs), and 5 bird nests from British Columbia; 4 specimens of birds from Colusa County, Calif. Exploration. The Museum, vol. 1, nos. 2, 7, 11; 46 ornithological separates; 51 periodicals on scientific subjects; 2 pamphlets; 1 copy, 59th Annual Report, American Museum of Natural History. Gift.

Swarth, Mrs. Winifern W., 2800 Prince Street, Berkeley, Calif.: 179 botanical specimens from Lake Atlin Region, British Columbia. Gift.

Taylor, Mrs. Ross, Calif.: 3 mud wasps. Gift.

Thompson, Robert L., Jr., 726-11th Ave., San Francisco, Calif.: 1 White-tailed Kite (*Elanus leucurus*). Gift.

Tiran, G., P. O. Box 116, Saigon, French Indo-China: 1 pamphlet: Big Game Hunting in French Indo-China. Gift.

Toftley, Charles, San Francisco: 2 lizards from San Francisco, Calif. Gift.

Tose, Frank, California Academy of Sciences, San Francisco: 1 snake (*Thamnophis ordinoides atratus*), from Marin County, Calif.; 2 reprints from Museum News of October 15, 1920; 3 bound volumes and 2 pamphlets. Gift.

Trost, Henry, de Young Memorial Museum, San Francisco: 6 House Sparrows (*Passer domesticus*), from San Francisco. Gift.

Van Duzee, E. P., California Academy of Sciences, San Francisco: 77 miscellaneous insects from Santa Cruz, Calif. Exploration. 1 small box of land snails; 2 Mexican agricultural pamphlets; 1 volume of Entomological Paper of the University of California; 10 volumes and 47 numbers of various periodicals. Gift.

Van Duzee, E. P., and Usinger, Robert, California Academy of Sciences, San Francisco: 8261 miscellaneous insects from Owens Valley, Calif. Exploration.

Van Dyke, Dr. E. C., University of California, Berkeley, Calif.: 1 salamander from Woodacre, Marin County, Calif.; 6 small lots of land snails from California; 25 specimens of land snails from various localities; 1931 miscellaneous insects from Sequoia National Park, 174 from the Black Mountains, North Carolina, and 1928 from southern California. Gift.

Van Dyke, Mrs. E. C., 2440 Stuart Street, Berkeley, Calif.: 60 botanical specimens from Mt. Hood and the Three Sisters, Oregon. Gift.

Venturi, S., Tucuman, Argentina, South America: 403 botanical specimens from Argentina. Purchase.

von Geldern, Otto, Pacific Building, San Francisco: 1 copy of Reminiscences of the Pioneer Engineers of California, 1929. Gift.

Vortriede, William, Capitol Park, Sacramento, Calif.: 138 specimens of California plants. Gift.

Walther, Eric, Golden Gate Park, San Francisco: 500 specimens of exotic plants. Gift.

Warrington, Henry, Sutter Creek, Amador County, Calif.: 1 Lewis's Woodpecker (*Asyndesmus lewisi*) from Amador County, Calif. Gift.

Watson, Dr. Elba Emanuel, Michigan State College, East Lansing, Michigan: 1 book: Contributions to a Monograph of the Genus Helianthus, 1929. Gift.

Wright, J. T., California Academy of Sciences, San Francisco: 1 woodpecker (*Picus canus guerini*), from China. Gift.

April 8, 1930

# FINANCIAL STATEMENTS

## REPORT OF THE TREASURER

For the fiscal year ending December 31, 1929

| | | |
|---|---|---|
| January 1, 1929, Balance due Crocker First National Bank | | $ 3,782.56 |
| *Receipts:* | | |
| Dues | $ 3,540.75 | |
| Charles Crocker Scientific Fund Endowment Income | 1,749.56 | |
| James Lick Endowment Income | 70,411.08 | |
| General Income | 19,866.94 | |
| John W. Hendrie Endowment Income | 1,157.85 | |
| Post Card Sales | 972.82 | |
| Publication | 674.21 | |
| Interest | 1,237.72 | |
| Ignatz Steinhart Trust Interest | 833.97 | |
| Duplicate Sales Account | 15.10 | |
| W. G. Wright Fund | 10.00 | |
| Bills Receivable | 1,000.00 | |
| Sale of 416 shares stock Goldman Sachs Trading Corporation | 43,561.11 | |
| Great Auk Donation | 75.00 | |
| Sale of Dodge Car | 75.00 | |
| Ignatz Steinhart Trust Bills Receivable | 7,000.00 | |
| Wild Life Protection Fund | 100.00 | |
| *Total Receipts* | | $152,281.11 |
| | | $148,498.55 |

## REPORT OF THE TREASURER—Continued

*Expenditures:*

| | | |
|---|---|---|
| Interest | $ 10,543.45 | |
| Contingent Fund | 504.42 | |
| Salary Expense General | 19,430.75 | |
| Department Salaries | 20,993.90 | |
| Earthquake Insurance Sinking Fund | 1,200.00 | |
| Bills Payable | 10,000.00 | |
| Bills Receivable | 49,000.00 | |
| Steinhart Aquarium Equipment | 7,127.71 | |
| Insurance | 1,697.49 | |
| Wild Life Protection Fund | 47.56 | |
| Appraiser's and Attorneys Fees | 1,200.00 | |
| Henry M. Holbrook Fund | 25.28 | |
| Post Card Sales Account | 43.21 | |
| Great Auk Donation | 253.55 | |
| Sundry Creditors | 1,862.35 | |
| Museum Department Appropriations | 12,993.38 | |
| Expense | 2,631.09 | |
| Publications | 4,852.60 | |
| Library | 4,976.73 | |
| *Total Expenditures* | | $149,383.47 |
| January 1, 1930, Balance due Crocker First National Bank | | $ 884.92 |

M. HALL MCALLISTER, *Treasurer.*

Examined and found correct,

PACE, GORE & MCLAREN, *Certified Public Accountants.*

San Francisco, Calif., February 18, 1930.

## INCOME AND OPERATING EXPENSES

For the fiscal year, January 1, 1929, to December 31, 1929

*Income:*

| | | |
|---|---|---|
| Charles Crocker Scientific Fund Endowment Income | $ 1,749.56 | |
| James Lick Endowment Income | 70,411.08 | |
| General Income | 19,866.94 | |
| Dues | 3,540.75 | |
| Interest on Temporary Investments | 1,237.72 | |
| Profit on Post Card Sales | 603.07 | |
| *Total Income* | | $ 97,409.12 |

*Expenditures:*

| | | |
|---|---|---|
| General Expense | $ 2,784.83 | |
| Salaries | 40,595.71 | |
| Interest | 11,258.45 | |
| Insurance | 1,697.49 | |
| Appraiser's Fees | 1,200.00 | |
| *Total Expenditures* | | $ 57,536.48 |
| Net Income Transferred to Surplus Account | | $ 39,872.64 |

## SUMMARY OF SURPLUS ACCOUNT

December 31, 1929

| | | |
|---|---|---|
| Balance January 1, 1929 | | $546,531.53 |
| *Additions:* | | |
| Net Income for the year ended December 31, 1929 | $ 39,872.64 | |
| Profit on Securities Sold | 2,665.57 | |
| Sale of Duplicate Books | 15.10 | |
| Donations toward Purchase of Great Auk Skeleton | 75.00 | |
| Library Purchases from W. G. Wright Fund | 8.97 | |
| *Total Additions to Surplus* | | $ 42,637.28 |
| | | $589,168.81 |
| *Deductions:* | | |
| Depreciation | $ 16,226.42 | |
| Loss on Sale of Automobile | 198.75 | |
| *Total Deductions from Surplus* | | $ 16,425.17 |
| Surplus, December 31, 1929 | | $572,743.64 |

## BALANCE SHEET

December 31, 1929

*Assets*

| | | |
|---|---|---|
| *Property:* | | |
| Real Estate, 831-833 Market Street | $600,000.00 | |
| Commercial Building, 833 Market Street | 516,818.66 | |
| Real Estate, Jessie Street | 8,083.65 | |
| | | $1,124,902.31 |
| *Museum, Golden Gate Park:* | | |
| Building Construction | $192,025.92 | |
| General Collections | 201,611.26 | |
| Library and Equipment | 149,748.43 | |
| Tools and Equipment | 45,780.93 | |
| Office Furniture | 5,752.84 | |
| | | $ 594,919.38 |
| *Investment Securities* | | $ 5,763.64 |
| *Ignatz Steinhart Trust:* | | |
| Bills Receivable | $ 5,000.00 | |
| Steinhart Aquarium Construction | 263,390.29 | |
| Steinhart Aquarium Equipment | 34,257.58 | |
| Steinhart Aquarium Revolving Fund | 5,000.00 | |
| Uninvested cash on hand | 977.28 | |
| | | $ 308,625.15 |
| *Current Assets:* | | |
| Bills Receivable | $ 58,000.00 | |
| Post Cards in stock | 267.54 | |
| Cash on hand | 125.49 | |
| Advances to employees doing field work | 1,836.69 | |
| | | $ 60,229.72 |
| Total | | $2,094,440.20 |

## BALANCE SHEET—Continued

*Liabilities*

| | | |
|---|---|---|
| *Endowments:* | | |
| James Lick Endowment | $804,902.31 | |
| Charles Crocker Scientific Fund Endowment | 20,000.00 | |
| John W. Hendrie Endowment | 32,770.85 | |
| | | $ 857,673.16 |
| *Funds Held for Special Purposes:* | | |
| Alvord Bequest Botanical | $ 5,000.00 | |
| John W. Hendrie Endowment Income | 1,157.85 | |
| Earthquake Insurance Sinking Fund Income | 463.64 | |
| W. G. Wright Fund | 32.57 | |
| Park Birds Handbook Fund | 20.00 | |
| Wild Life Protection Fund | 122.35 | |
| | | $ 6,796.41 |
| *Reserve for Depreciation* | | $ 149,603.19 |
| *Ignatz Steinhart Trust:* | | |
| Principal | $250,000.00 | |
| Interest | 58,625.15 | |
| | | $ 308,625.15 |
| *Notes and Accounts Payable:* | | |
| Bills Payable | $195,000.00 | |
| Accounts Payable and Accruals | 2,136.45 | |
| Due Crocker First National Bank (Overdraft) | 1,862.20 | |
| | | $ 198,998.65 |
| *Surplus* | | $ 572,743.64 |
| Total | | $2,094,440.20 |

SUSIE M. PEERS,
*Secretary, Board of Trustees.*

We have examined the foregoing Balance Sheet, together with the books and accounts of the California Academy of Sciences, and in our opinion, it is properly drawn up so as to exhibit a true and correct view of the Academy's affairs, as shown by the books.

PACE, GORE & MCLAREN,
*Certified Public Accountants.*

San Francisco, Calif.,
February 18, 1930.